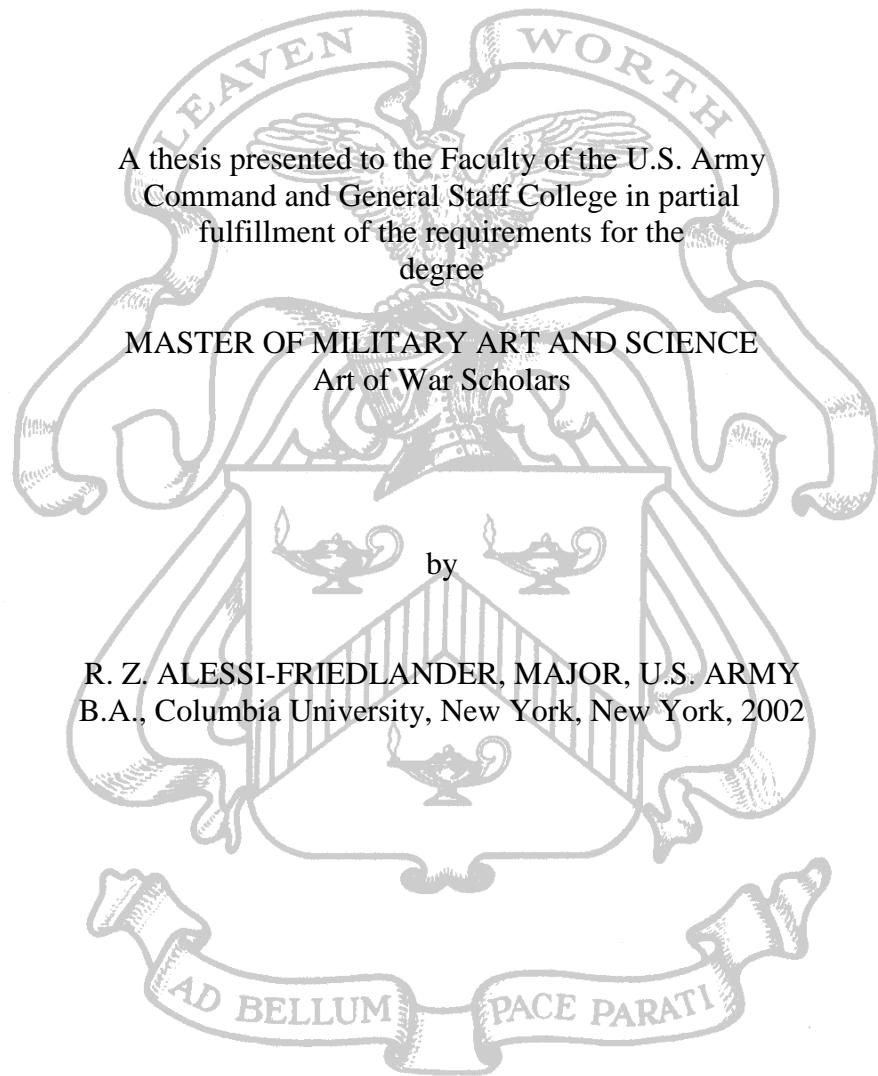


LEARNING TO WIN WHEN FIGHTING OUTNUMBERED: OPERATIONAL
RISK IN THE U.S. ARMY, 1973-1982, AND THE INFLUENCE
OF THE 1973 ARAB-ISRAELI WAR



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2016

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

LEARNING TO WIN WHEN FIGHTING OUTNUMBERED: OPERATIONAL RISK IN THE U.S. ARMY, 1973-1982, AND THE INFLUENCE OF THE 1973 ARAB-ISRAELI WAR, by MAJ R. Z. Alessi-Friedlander, U.S. Army, 254 pages.

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ACRONYMS

CAC	Combined Arms Center
CGSC	Command and General Staff College
CSA	Chief of Staff of the Army
FM	Field Manual
IDF	Israel Defense Forces
NATO	North Atlantic Treaty Organization
NTC	National Training Center
SAM	Surface-to-air Missile
SAMS	School of Advanced Military Studies
SRSG	Special Readiness Study Group
TRADOC	U.S. Army Training and Doctrine Command

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CHAPTER 1

INTRODUCTION

As war continues, it generally becomes an affair of chances, chances from which [neither side] is exempt, and whose event we must risk in the dark.

— Thucydides, quoted in Robert Strassler, *The Landmark Thucydides*

War is the realm of uncertainty; three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty . . . War is the realm of chance. No other human activity gives it greater scope: no other has such incessant and varied dealings with this intruder. Chance makes everything more uncertain and interferes with the whole course of events.

— Carl von Clausewitz, *On War*

Background

On 6 October 1973, Egypt and Syria launched a massive, coordinated attack against Israel, employing combined-arms maneuver—of unprecedented scale and success—across the Suez Canal and through the Golan Heights, respectively. This two-front war by an unexpectedly capable enemy caught Israeli political and military leaders by surprise. It shattered the sense of superiority and resulting overconfidence that had set in following Israel’s dominating victory over a large Arab coalition in the Six-Day War of 1967. Arab successes in the 1973 Arab-Israeli War exposed flaws in Israel’s strategic doctrine and new operational vulnerabilities given the proliferation of advanced modern weapons. Since 1967, Israel had adopted a more defensive strategy in which its previous doctrine of preemption was replaced by one of containment and counteroffensive.¹

¹ Eitan Shamir, *Transforming Command: The Pursuit of Mission Command in the U.S., British, and Israeli Armies* (Stanford, CA: Stanford University Press, 2011), 90-91.

Additionally, the Egyptians and Syrians successfully employed new Soviet-supplied, precision-guided weapons (most notably anti-tank guided missiles and integrated air defense systems) to counter Israel's qualitative advantages in three areas: air supremacy, armored supremacy, and deep strike capability.²

The 1973 Arab-Israeli War³ had implications on the security situation outside of the Middle East. As the former Israeli general and future President, Chaim Herzog, observed in 1975: "The Middle East conflict emphasizes a determined and unrelenting Soviet threat to the security of the whole of Europe . . . For so far as leaders of the Kremlin were concerned, the war was basically a side show in which their weapons could be tested, Western technology evaluated, and Western reactions to the crisis gauged."⁴

Despite the deep blows to Israel's confidence and worldview, it survived the war. Although the United States provided much needed support—through both military aid and diplomatic pressure for a ceasefire⁵—the Israeli military prevailed because of their

² Walter J. Boyne, *The Yom Kippur War and The Airlift that Saved Israel* (New York: Thomas Dunne Books, 2002), 14-17.

³ The 1973 Arab-Israeli War is typically called the Yom Kippur War in the United States, United Kingdom, and Israel, while the Arabs refer to it as the Ramadan War. A more neutral variant is the 1973 (Arab-Israeli) or October War. See Frank Aker, *October 1973: The Arab-Israeli War* (Hamden, CT: Archon Books, 1985), 4; P. R. Kumaraswamy ed., "Preface," in *Revisiting the Yom Kippur War* (London: Frank Cass, 2000), 9-10. In the interest of brevity, the 1973 Arab-Israeli War will sometimes be referred to in this thesis as the 1973 War, and the Six-Day War of 1967 will sometimes be referred to as the 1967 War.

⁴ Chaim Herzog, *The War of Atonement, October, 1973* (Boston, MA: Little, Brown, and Company, 1975), 289.

⁵ Asaf Siniver, ed., "U.S. Foreign Policy and the Kissinger Stratagem," in Kumaraswamy, 85-99.

remarkable performance on the battlefield, at the tactical level for sure,⁶ but especially at the operational level. For the United States, the 1973 Arab-Israeli War not only demonstrated the devastating effectiveness of the new precision-guided weapons, but also suggested that America's current doctrine of deterrence and counter-offensive for a sub-nuclear, conventional war against the Warsaw Pact was no longer sufficient to adequately counter the threat to Western Europe.

In 1973, the U.S. Army was at an inflection point: it was dramatically drawing down the decade-long war in Vietnam, reducing its overall force structure, cutting its budget, and transforming into an all-volunteer force—all while sustaining its presence in Europe to deter the Soviet-led Warsaw Pact. General William DePuy assumed command of the Army's newly formed Training and Doctrine Command (TRADOC) in July 1973.⁷ He saw the Army's preparation challenges through a very different lens than that of his Army senior-leader predecessors. Instead of enlarging the Army through rapidly trained and deployed conscripts, the Army would now be expected to train smaller numbers of volunteers to expert proficiency so that they would have a qualitative advantage over a numerically superior enemy. This not only demanded a dramatic revision of the Army's

⁶ See for example, Oakland McCulloch, "The Decisiveness of Israeli Small-Unit Leadership on the Golan Heights in the 1973 Yom Kippur War" (Master's thesis, U.S. Army Command and General Staff College, Fort Leavenworth, KS, 2003), 19-87.

⁷ For the official Army history on the reorganization of the Continental Army Command into TRADOC and U.S. Forces Command, see Jean R. Moenk and Brooks E. Kleber, *Operation STEADFAST Historical Summary: A History of the Reorganization of the U.S. Continental Army Command, 1972-1973* (Fort McPherson, GA: Historical Offices of U.S. Army Forces Command and TRADOC, 1 October 1974), 270-289.

training and education system, but also a complete overhaul of the Army's cornerstone warfighting doctrine.⁸

When asked years after he retired from the Army about the impact of the 1973 Arab-Israeli War, General DePuy stated that the war provided "a marvelous excuse or springboard, if you will, for reviewing and updating our own doctrine. Some of the evidence coming out of that [war] was awesome."⁹ The Chief of Staff of the Army (CSA), General Creighton Abrams, directed TRADOC to extract the lessons of the war. TRADOC then tasked the Combined Arms Center (CAC) to form and direct a Special Readiness Study Group (SRSG). Brigadier General Morris Brady led the team, which, in July 1974, produced a massive report detailing 162 specific recommendations for the Army. DePuy wrote a crisp summary of the SRSG's findings and submitted them directly to General Abrams.¹⁰ The implications of this new form of battle inspired DePuy's sense of urgency; in a 1975 presentation that he gave on the war's lessons, DePuy noted, "if the rate of loss which occurred in the Arab-Israeli War during the short period of 18-20 days were extrapolated to the battlefields of Europe over a period of 60-90 days, the resulting

⁸ Paul H. Herbert, *Deciding What Has to Be Done: General William E. Depuy and the 1976 Edition of FM 100-5, Operations*, Leavenworth Papers No. 16 (Fort Leavenworth, KS: Combat Studies Institute, 1988), 26-27.

⁹ Romie L. Brownlee and William J. Mullen III, *Changing an Army: An Oral History of General William E. DePuy, USA Retired* (Washington, DC: U.S. Army Center of Military History, 1988), 190.

¹⁰ Herbert, 30-31.

losses would reach levels for which the United States Army is not prepared in any way.”¹¹

DePuy emphasized three main lessons from the Arab-Israeli War that would drive immediate development efforts in the U.S. Army in order to make it more capable for the future fight: (1) the lethality of the new weapons vastly exceeded anything the U.S. Army had previously encountered; (2) to counter this “new lethality,” the U.S. Army required highly trained and integrated teams of armor, infantry, artillery, and air defense supported by sufficient sustainment capabilities; and (3) the quality of individual and small-unit collective training would determine future battlefield successes.¹² Thus, the initial lessons learned focused on tactics, organization, training, and materiel solutions, largely ignoring—or at least subordinating—the lessons from the operational level of war.

Although DePuy’s interpretation of the 1973 War drove the U.S. Army’s initial developmental efforts, insights from the war at the operational level would endure and influence subsequent Army developmental efforts in the late 1970s and early 1980s. DePuy’s successor at TRADOC, General Donn Starry, recognized this deficiency. He had spent a significant amount of time in Israel after the 1973 War and engaged senior Israeli commanders on doctrinal concepts at both the tactical and operational levels. He understood that both the Army’s immediate post-Vietnam doctrine (i.e., the 1976 version of Field Manual (FM) 100-5, *Operations*) and the professional military education for

¹¹ General William E. DePuy, “Implications of the Middle East War on U.S. Army Tactics, Doctrine, and Systems,” February 1975, General William E. DePuy Papers, Box 4, U.S. Army Heritage and Education Center, Carlisle, Barracks, PA, chart 2. Hereafter referred to as DePuy Papers.

¹² Ibid., 2.

officers lacked appropriate emphasis on the operational level of war, and he saw it as his responsibility to ultimately address those deficiencies.¹³ Starry argued that the Army published the 1976 version of FM 100-5 to capture and disseminate the immediate tactical lessons of the 1973 War and their relevance to the Army moving forward. The Army, he knew, would then address and solve the operational-level problems later. He understood, from standing in the Israeli Defense Force's (IDF) Northern Command Post in the Golan Heights and talking with its senior commanders, such as Brigadier General Musa Peled, that the harder and arguably more important insights went beyond the tactical lessons of the close-in battle. For him, military success would depend on widening the commander's aperture and elevating his perspective to include a greater appreciation for the deep fight and the operational level of war.¹⁴

Risk—the definition of which will be discussed in the Methodology section of this chapter—is a frustratingly nebulous entity, especially for military commanders and, in particular, for those leading at the operational level of war. The U.S. Army had rarely been confronted with risk at the operational level in the two decades since the conclusion of the Korean War; decisive, large-scale battles occurred infrequently, if at all. Risk identification, calculus, and management had largely been confined to the tactical and strategic levels, but the dynamics of the 1973 Arab-Israeli War illuminated the importance of operational art and the ability of commanders to “understand and accept

¹³ Matthias A. Spruill and Edwin T. Vernon, *An Oral History of General Donn A. Starry*, ed. Lewis Sorley (Carlisle Barracks, PA: U.S. Army Military History Institute, 1986), 210-211.

¹⁴ Ibid., 240-241.

exposure to potential threats or conditions in order to gain an advantage to achieve operational purpose”¹⁵ (i.e., to understand and accept operational risk).

The 1973 Arab-Israeli War revealed multiple areas on which the U.S. Army needed to focus developmental energies and resources—from training standards for infantry and tank crews to materiel solutions to counter the “new lethality” of precision-guided weapons.¹⁶ Perhaps none was more important than the comprehension of, preparation for, and acceptance of risk at the operational level. In 1973, unlike during their previous three wars, a highly trained Arab coalition, equipped with the most modern, lethal weapons, and inspired by the humiliation of 1967 confronted an overconfident IDF. The Israelis prevailed, however, as Michael Carver has argued, for two complementary reasons: (1) unlike their opponents, they were fighting against a truly existential threat; and (2) despite greater casualty aversion than their opponents, the IDF embraced an exceptional level of risk, and their audacity led more often to success than

¹⁵ Jon W. Meredith, “Operational Risk and the American Way of War” (Monograph, School of Advanced Military Studies, Fort Leavenworth, KS, 2011), 5. The quotation is part of Meredith’s longer definition of operational risk—to which this thesis will return in the discussion of Research Questions and Methodology. It is important to note that Meredith is not assessing the performance of Israeli commanders in his monograph.

¹⁶ General DePuy favored the term “new lethality,” using it repeatedly in working documents, presentations, and reports between 1973 and 1976. The Army and TRADOC codified it in the 1976 version of FM 100-5; chapter 2 (“Modern Weapons on the Modern Battlefield”) opens with an overview subtitled “New Lethality.” See Headquarters, Department of the Army (HQDA), Field Manual (FM) 100-5, *Operations* (Washington, DC: Government Printing Office, 1976), 2-1.

failure.¹⁷ And, as David Lamborn argues, “war at the operational level is a learning competition with risk at its central feature.”¹⁸

Research Questions

This study focuses on understanding how the 1973 Arab-Israeli War influenced the U.S. Army’s conceptualization of, preparation for, and response to operational risk. It seeks to understand what lessons with respect to operational risk were available from the IDF’s performance during the 1973 War and then how the U.S. Army interpreted those lessons; integrated those interpretations into its evolving doctrine and concepts; and, ultimately, how it implemented those lessons with the warfighting force. Thus, the primary research question governing this study is: How did the Army’s conceptualization of, preparation for, and response to operational risk change as a result of the 1973 Arab-Israeli War? This question is further subdivided into three secondary research questions. First, what were the available lessons with respect to operational risk from the IDF and its performance during the 1973 Arab-Israeli War? Second, how did the U.S. Army interpret this evidence, and to what extent and how did the U.S. Army integrate these lessons about operational risk into its capstone doctrine and concepts? Third, to what and how did the U.S. Army operationalize its evolved doctrinal concepts concerning operational risk within the warfighting force.

¹⁷ Michael Carver, “Conventional War in the Nuclear Age,” in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 797-798.

¹⁸ David M. Lamborn, “Operational Risk Preparedness and General George H. Thomas and the Franklin-Nashville Campaign” (Monograph, School of Advanced Military Studies, Fort Leavenworth, KS, 2014), 27.

Methodology

This study is a qualitative historical analysis: a study of social and military phenomena using records and accounts.¹⁹ It endeavors to isolate the problem of operational risk over an extended period of time in two separate military cultures, exploring how the IDF's approach to this challenge influenced that of the U.S. Army.²⁰

In his study of mission command in the United States, British, and Israeli armies, Eitan Shamir offers a useful conceptual model to frame and articulate the dynamics of interpretation, integration, and implementation that this study will employ (see figure 1). This framework will provide the structure for this thesis. Specifically, this study will first explore how the IDF prepared for, conceptualized, and responded to operational risk before and during the 1973 War, representing the lessons available to the U.S. Army. It

¹⁹ See Catherine Marshall and Gretchen B. Rossman, *Designing Qualitative Research*, 4th ed. (Thousand Oaks, CA: SAGE Publications, 2006), 1-3, 119. They define qualitative research as “a broad approach to the study of social phenomena. Its various genres are naturalistic, interpretative, and increasingly critical, and they draw on multiple methods of inquiry.” Historical analysis—vice history, which “is an account of some event or combination of events”—“is a method of discovering what has happened using records and accounts.”

²⁰ In essence, this approach constitutes a modified version of the scientific method and employs six steps: (1) isolate the problem; (2) develop a hypothesis; (3) collect and classify source materials; (4) organize facts into results; (5) frame conclusions; and (6) synthesize and present research in an organized form. John A. Nagl, “Asymmetric Threats to U.S. National Security to the Year 2010” (Master’s thesis, U.S. Army Command and General Staff College, Fort Leavenworth, KS, 2001), 13-21 provided this methodological model and a useful example. See also David Silverman, *Interpreting Qualitative Data: A Guide to the Principles of Qualitative Research*, 4th ed. (Los Angeles, CA: SAGE Publications, 2011), 4. Although qualitative analysis historically induces a hypothesis from data, it is becoming more common for qualitative research to begin with a hypothesis. This study will start with a hypothesis (the thesis discussed later in this chapter); however, based on the results determined from the data gathered and analyzed, the author will refine the thesis during step 5 (framing conclusions).

will then analyze how the U.S. Army interpreted those lessons and integrated those interpretations into its capstone doctrine. Concurrently with the study of the doctrinal integration, it will examine how the Army attempted to operationalize these new doctrinal concepts with respect to risk within its warfighting elements.

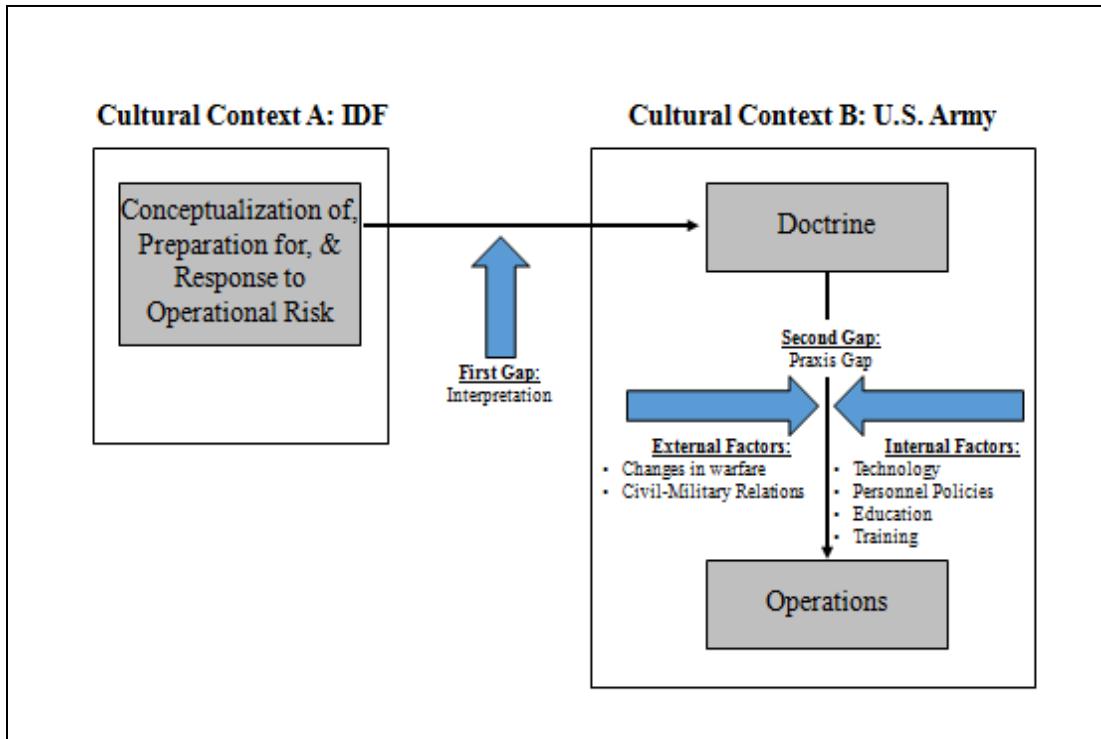


Figure 1. The Dynamics of Interpretation, Integration, and Implementation

*Source: Eitan Shamir, *Transforming Command: The Pursuit of Mission Command in the U.S., British, and Israeli Armies* (Stanford, CA: Stanford University Press, 2011), 6-7.*

In order to effectively isolate the concept of operational risk for analysis in the primary- and secondary-source documents available for study, suitable definitions of operational risk and the associated actions taken to prepare for or respond to (i.e., accept, reject, and/or mitigate) that risk are required. The subject of risk is a difficult one for

theorists in any field, let alone the military. The Prussian war theorist, Carl von Clausewitz, famously grappled with the question of risk in his discussion of war's "paradoxical trinity." Clausewitz aligned war's enduring and fundamental characteristics with the following entities: with the people, the powerful forces of "primordial violence, hatred, and enmity;" with the government, the responsibility to leverage reason to subordinate war as an instrument of policy; and finally, with the military, the responsibility to wrestle with war's complex demands to "allow the play of chance and probability within which the creative spirit is free to roam."²¹ Thus, in war, the military is responsible for the identification of, preparation for, and response to risk, especially at the operational level and below. In this realm of chance, uncertainty, and probability, subsequent theorists and practitioners have long struggled to bring greater order and certainty to an endeavor that is fundamentally chaotic and uncertain.²²

The word risk is derived from the Italian word *risciare*, which means to dare. Risk then, in its most fundamental meaning, is a choice rather than a fate. However, since the discovery of probability theory, risk has become more closely associated with the potential for loss, especially in the military.²³ This study seeks a more neutral definition:

²¹ Carl von Clausewitz, *On War*, ed. and trans. Peter Paret and Michael Howard (Princeton, NJ: Princeton University Press, 1976), 89.

²² Antoine Bousquet, *The Scientific Way of Warfare: Order and Chaos on the Battlefields of Modernity* (New York: Columbia University Press, 2009), 9-10. Bousquet argues that theorists of war have long struggled to "understand the potential and limits of organized violence, all in an effort to bring order and predictability to activities which would otherwise be left entirely to chance and uncertainty."

²³ See Peter L. Bernstein, *Against the Gods: The Remarkable Story of Risk* (New York: John Wiley and Sons, 1996), 7; Preston Cline, "The Etymology of Risk" (Master's thesis, Harvard University, Cambridge, MA, 2004), 9-13.

“the effects of uncertainty upon objectives”²⁴—one that acknowledges that when confronted with uncertainty and chance for which the probability of success or failure cannot be precisely determined, the decision maker is faced with both opportunities and threats. How a commander ultimately engages the risk with which he is confronted may ultimately determine his fate and that of his organization.

Recent work by Major David Lamborn on operational risk offers a definition that this study will apply: “Any friendly decision, enemy action, or environmental change that presents opportunity or poses a threat, is filled with uncertainty, and requires action.”²⁵ To this, this study will add Major Jon Meredith’s emphasis on the effects of this uncertainty upon one’s ability to “achieve the reason the operation was initiated in the first place.”²⁶ Lamborn’s model (see figure 2) helps to visualize and relate these concepts.

²⁴ While no meta-definition of the word risk appears feasible, “the effects of uncertainty upon objectives,” offers a good starting point that can be tailored to the unique needs of an academic discipline or profession. See International Organization for Standardization, “Risk Management—Principles and Guidelines,” 2009, accessed 15 October 2015, <https://www.iso.org/obp/ui/#iso:std:iso:31000:en>.

²⁵ Lamborn, 29.

²⁶ Meredith, 5.

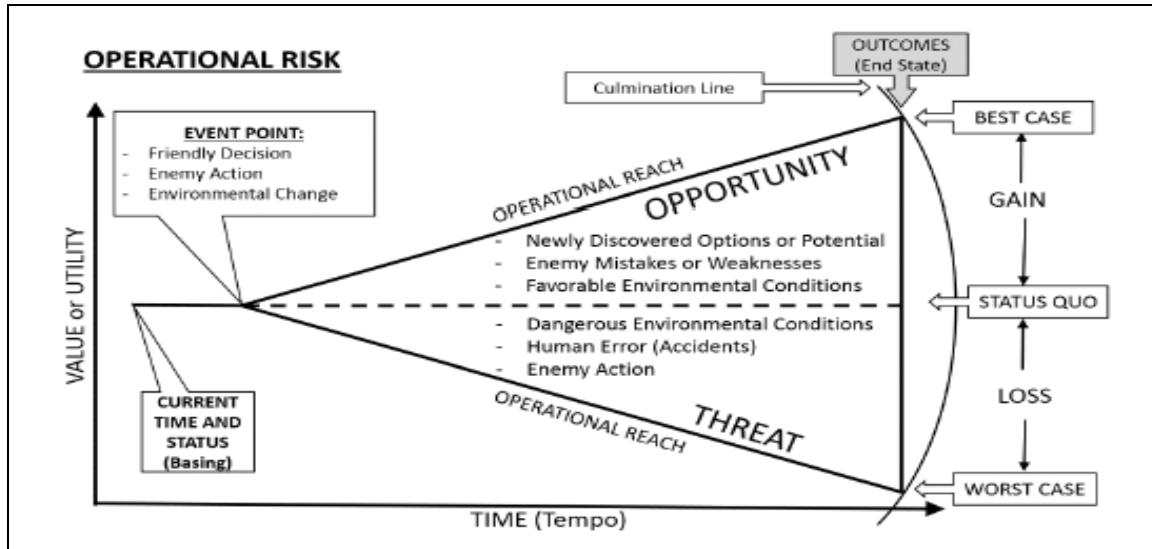


Figure 2. Conceptual Depiction of Operational Risk

Source: David M. Lamborn, “Operational Risk Preparedness and General George H. Thomas and the Franklin-Nashville Campaign” (Monograph, School of Advanced Military Studies, Fort Leavenworth, KS, 2014), 30.

Importantly, Lamborn bounds operational risk by defining risk at the tactical and strategic levels. At the tactical level, risk comprises “identifiable hazards and known risks that have some probability of occurrence and calculable magnitude of impact,” while at the strategic level, risk comprises “balancing ends (political objectives) with means (national resources) over an extended and unknown time period given uncertain popular will.”²⁷ This study will use these definitions in the narrative and analysis that follows; however, it is essential for the reader to keep in mind that the key individuals from the period under study will usually employ risk as synonymous with potential for loss.

²⁷ Lamborn, 29.

He argues that if, in the course of the fighting, the uncertainty clears and one is able to identify the risk, then it would devolve into the “realm of tactical risk, as it could then be calculated and have resources dedicated to it.” In order to accomplish this, the organization’s decision cycle must be able to rapidly create shared understanding, which requires that it be a true learning organization.²⁸

Because of the uncertainty and complexity inherent to the operational level of war, commanders cannot simply manage risk. During the fighting, commanders must be willing and able to make decisions when uncertainty cannot be completely eliminated or resolved given the time and resources available. Thus, they must prepare their organizations, in advance, to fight and win, when confronted by uncertainty. With respect to preparation, units able to engage operational risk effectively must be well led and set conditions to be agile, adaptive, and resilient learning organizations ready to take the initiative in response to emergent threats or opportunities.²⁹

Once in battle, as Meredith has argued, commanders must possess “the willingness and ability to understand and accept exposure to potential threats or

²⁸ Lamborn, 27-28.

²⁹ Ibid., 30: “The commander at the operational level must structure his force to be a learning organization so that he can gather, interpret, and share information to create shared understanding within his own organization faster than the enemy thereby enabling faster, more appropriate action than the enemy. He must also ensure that his unit is agile enough to act rapidly with sufficient strength when it identifies an opportunity or threat. His organization must be adaptive enough to change its structure or processes to fit the changing circumstances of the operational environment. And he must build a resilient organization which is not reliant on any single person or system. This will ensure that the organization as a whole is capable of continuing the mission in the face of inevitable losses and hardship.”

conditions in order to gain an advantage to achieve operational purpose.”³⁰ This process is about engaging the effects of uncertainty upon objectives, or, said differently, about negotiating boundaries and the consideration of opportunity costs—those of the environment, the friendly force, and the enemy.³¹ Additionally, amidst the fighting, a commander must “seek to create and preserve friendly options while actively reducing enemy options.” Ultimately, a commander must make decisions that enhance his capabilities and options, whether cognitive or physical, while degrading, disrupting, or unbalancing those of the enemy, leading to a position of relative advantage and an opportunity to regain or maintain the initiative.³² Meredith identifies five variables (for both friendly and enemy forces) that operational-level commanders must understand in relation to the operational purpose in order to identify and respond to threats and opportunities in a system: (1) assessment of the enemy; (2) self-knowledge; (3) operational reach and terrain; (4) phasing and transitions; and (5) higher-headquarters guidance.³³

The means by which these authors arrived at the above definitions and models will be further explored in chapter 2 (“Review of Major Literature”), but an important caveat is required here. This study recognizes the risk of anachronism in applying definitions, models, and frameworks developed in the present to periods and contexts

³⁰ Meredith, 5.

³¹ Preston Cline, telephone conversation with author, 6 October 2015.

³² Lamborn, 28-29.

³³ Meredith, 51.

from which the present study is now forty years removed. Care will be given to how the IDF and U.S. Army of the period studied spoke about operational risk and the relationship between its constituent and interacting variables; this study will not impose modern definitions on historical facts, but will rather use the definitions, models, and concepts discussed above as a means by which to consistently organize, classify, and interpret what the documents reveal. Armed with these definitions, models, and conceptual frameworks, this historical analysis will heed the three imperatives that Michael Howard outlined over fifty years ago: (1) it will possess sufficient width to understand the balance between war's continuities and changes; (2) it will possess the necessary depth to avoid the pitfalls of "tidy outlines" and ensure "the confusion and horror of the real experience" are examined; and (3) it will establish and leverage the appropriate contexts so that lessons learned and subsequent adaptations are understood by the "nature of the society" making the changes to fight their wars.³⁴

Thesis

The U.S. Army learned a great deal about operational risk from the IDF's experience during the 1973 Arab-Israeli War. It largely succeeded in integrating those insights into its capstone doctrine and concepts, but failed to operationalize them fully within its warfighting elements because of a number of cultural and institutional differences between the two armies. These factors include an overreliance and emphasis upon superior technology; a corporate-style, top-down-driven management system; a

³⁴ Michael Howard, "The Use and Abuse of Military History," *The Journal of the Royal United Services Institution* 107, no. 625 (1962): 4-10.

deep-rooted and growing cultural risk aversion, especially given an increasing emphasis on casualty avoidance; and the absence of a truly existential, sub-nuclear/conventional military threat.

Purpose and Organization of the Study

This study provides an assessment of how a transitioning U.S. Army analyzed and responded to lessons regarding how to identify and then respond to operational risk from an allied, but culturally different army. This study is not intended to serve as a comprehensive historical analysis of the U.S. Army's reform and modernization from 1973 to 1982; others have handled this in great detail (see Chapter 2, "Literature Review"). Additionally, although the influence of the 1973 Arab-Israeli War will serve as the primary analytical focus, other factors, such as the study of evolving Soviet doctrine and the influence of military history and theory, will also be considered.

Chapter 2 will provide a survey and analysis of the most significant works within the several distinct bodies of literature over which this study ranges. Specifically, this chapter will explore three main literatures: works on risk, both broadly and through a more specific lens; the 1973 Arab-Israeli War, including the operational and strategic context of the preceding period; and the U.S. Army's efforts to reform and modernize in the 1970s and 1980s. Finally, this chapter will identify the collections of available primary-source materials that are critical to the examination of this study's topic.

The three subsequent body chapters address the aforementioned research questions in detail. Through an assessment of how the IDF prepared its officers for the effects of uncertainty and how they responded to it during the 1973 War, chapter 3 will

develop and articulate the IDF model of operational risk-taking potentially available to the U.S. Army in the period of study, engagement, and reflection that followed.

Chapter 4 will explore the first tranche of lessons that the U.S. Army extracted from that conflict with respect to operational risk, and then how it integrated those lessons into a dramatically revised version of its capstone manual, FM 100-5. Chapter 5 will consider the second tranche of lessons that the Army extracted from the 1973 War, and then how it integrated those into another dramatic revision of FM 100-5. Additionally, this chapter will examine the impact of the Army's concurrent reforms in training, education, leader development, and equipment modernization—and the extent to which they facilitated or hindered the Army's ability to implement its evolving ideas concerning operational risk.

Finally, chapter 6 will offer some conclusions, in three parts. The first will provide a concise summary of the argument over the principle period under study (1973-1982) and a discussion of some of the overarching themes that emerged over the course of this inquiry. The second part will provide a brief epilogue of some of the additional reforms that the Army carried out over the subsequent decade as well as an assessment of the Army's performance, with respect to operational risk, during the 1991 Persian Gulf War. The purpose is two-fold: (1) to provide a better assessment of how effectively the Army implemented its evolved understanding of operational risk; and (2) what this extended two-decade period of reform and modernization suggests about the so-called American Way of War. The chapter concludes with some observations concerning the value and applicability of this study to the contemporary Army.

CHAPTER 2

REVIEW OF MAJOR LITERATURE

Scholars have never undertaken a formal inquiry concerning the influence of the 1973 Arab-Israeli War on the ways in which the post-Vietnam U.S. Army conceptualized, prepared for, and responded to operational risk. This is a specific topic, but one that ranges across several distinct bodies of literature. Therefore, this chapter will survey and analyze the most significant works in these individual (and sometimes, overlapping) literatures: risk, defined both broadly and militarily; the 1973 Arab-Israeli War, including both the IDF and the Arab armies of the period; and the U.S. Army's efforts to reform and modernize in the 1970s and 1980s. These literatures reveal many of the related events, concepts, and efforts that, when considered together, illuminate key insights concerning this study's topic. Of particular interest in these literatures are the IDF's and U.S. military's approaches to command and control, the operational level of warfare, and operational art—all of which help to inform how both militaries considered and engaged uncertainty at the operational level, both before and during conflict. Finally, this chapter will identify the collections of primary-source materials that are critical to the examination of this study's topic.

Risk

The literature on risk in the organizational sciences is vast, but is dominated by financial and business contexts. Of particular concern for this study is defining risk and the actions that organizations take both to prepare for and respond to it. Scholars in the field have frequently noted the instability of risk as a concept, with disciplines often

using different definitions³⁵ and scholars struggling to develop and promote an acceptable inter-disciplinary definition.³⁶ In order to understand this instability, one must, therefore, consider the etymology and history of risk, as the financial historian and economic analyst Peter Bernstein and the risk specialist Preston Cline have demonstrated.

Bernstein's sweeping history, *Against the Gods: The Remarkable Story of Risk*, argues that a “mastery” of the concept was perhaps the primary catalyst enabling humanity to cross modernity's threshold.³⁷ His book describes man's changing relationship with risk from antiquity to the present, focusing on how key theoretical developments (most notably, the discovery of probability theory in the mid-seventeenth century) transformed risk from a fate to a choice. In the past several centuries, man's approach to risk has become increasingly scientific with the development of risk management and the analysis of decisions and choice. However, Bernstein demonstrates that even with these methodological developments, the goal of completely liberating society from chance and uncertainty continues to elude society. The complexity of the environment and the dynamic persistence of human irrationality allow risk to endure.

Cline's work sits astride two important domains: those of both the academic and military spheres. In his study of risk's etymology³⁸ and in a recent white paper written for

³⁵ See, for example, D. C. Hall, *What is “Risk”?* (Greenbelt, MD: SRS Information, 2002), 12.

³⁶ Stanley Kaplan, “The Words of Risk Analysis,” *Risk Analysis* 17, no. 4 (1997): 407-417.

³⁷ Bernstein, 1-3.

³⁸ Cline, “The Etymology of Risk,” 1-16.

the U.S. Special Operations Command,³⁹ he, like Bernstein, attributes a significant shift in man’s approach toward risk to the discovery of probability theory. In 1611, the English lexicographer Randle Cotgrave defined risk as: “peril, jeopardy, danger, hazard, chance, adventure.”⁴⁰ Yet, Cline shows that, after Blaise Pascal and Pierre Fermat discovered and articulated probability theory in 1654, the definition of risk changed considerably. The English attorney and amateur lexicographer, Thomas Blount, published a *Glossographia* in 1656 in which the term “adventure,” defined elsewhere in the volume as “to dare,” had been removed from the earlier definition.⁴¹ Cline argues that this shift is important because man no longer believed that risk was something with which he could both passively and actively engage; rather, man was now only a passive recipient of risk, and the concept was thus taken increasingly to mean potential for loss.

Despite this conceptual instability, the International Organization for Standardization, a standard-setting body comprising representatives from various national standards organizations, currently defines risk as “the effect of uncertainty upon objectives.”⁴² This broad definition of risk is more useful to this study because it does not

³⁹ Preston Cline, “Risk Management for U.S. Army Special Operations: Addressing the Need to Continuously Adapt to a Changing Problem Set” (White Paper, U.S. Army Special Operations Command, Fort Bragg, NC, 2013), 1-18.

⁴⁰ R. Cotgrave and C. Hollyband, *A Dictionarie of the French and English Tongues* (London: Adam Islip, 1611), quoted in Cline, “The Etymology of Risk,” 9.

⁴¹ T. Blount, *Glossographia: Or a Dictionary, interpreting all such hard words of whatsoever language, now used in our refined English tongue with etymologies, definitions, and historical observations on the same* (London: Thomas Nevv, 1661), quoted in Cline, “The Etymology of Risk,” 12.

⁴² International Organization for Standardization.

assume a “potential for loss;” instead, an effect here is taken to mean “a deviation from the expected—positive and/or negative.” Potential gains or opportunities, as a result of effectively being able to engage uncertainty, are as relevant as potential losses, resulting from one’s failure to do so. Furthermore, one must consider the temporal dimension: in the present, one must navigate existing uncertainties, while simultaneously working to predict and manage future uncertainties.⁴³

Since risk is fundamentally about one’s approach to uncertainty, Antoine Bousquet’s *The Scientific Way of Warfare: Order and Chaos on the Battlefields of Modernity* provides a powerful conceptual framework for understanding how the modern West has thought about war with respect to uncertainty, complexity, and the extent to one can impose order, control, and predictability on the battlefield. His argument focuses on the intellectual influence that a given period’s dominant scientific ideas exerted on the military thinking about the nature of combat and the means by which to organize and control military forces to prevail in war. Bousquet describes how, as a result of the scientific method’s ascendancy in the modern West, a period’s dominant scientific discourse often led to a broader “technoscientific regime of order.”⁴⁴

He argues that from the late 17th century to the present, there have been four such regimes. Under the first (or “mechanical”) regime, militaries applied the concepts of Newtonian physics (force, linearity, matter in motion) to rigidly control disciplined formations. Then, under the “thermodynamic” regime, militaries leveraged a keener

⁴³ Cline, telephone conversation with author, 4 January 2016.

⁴⁴ Bousquet, 13-20.

understanding of energy and the mathematical implications of probability to exploit the chaotic forces of mass mobilization, industrialization, and motorization. The book's strongest and most relevant parts concern what Bousquet conceives as warfare's "cybernetic" and "chaoplexic" regimes.⁴⁵ Following World War II, an acute emphasis on information science led militaries to pursue automation and hierarchical command and control. The flaws of this approach became apparent when confronted by the complexities of low-intensity conflict in Vietnam. In its place, a new regime emerged, one that increasingly exploited insights from chaos theory and the non-linear sciences.

This study focuses on the period during which the West, especially the U.S. military, transitioned from the cybernetic to the chaoplexic regime. The illusion of control and certainty promised by the rise of computers, information science, and operations research and systems analysts during the Vietnam period was beginning to fade. In their place, thinking emerged that placed increased emphasis on war's inherent complexity and uncertainty—characteristics that leaders could exploit and embrace rather than assiduously avoid. This new thinking would have considerable impacts on the approach to military risk, especially at the operational level. For example, General Stanley McChrystal, who commanded the Joint Special Operations Command and later the International Security Assistance Force in Afghanistan, argued that the availability of vast amounts of data "can seduce leaders into thinking that they understand and can predict complex situations—that they can see what will happen. But the speed and

⁴⁵ Bousquet, 37-234.

interdependence of our current environment means what we cannot know has grown even faster than what we can.”⁴⁶

As discussed in the introduction, the literature on operational risk is not particularly robust. Most of this research has been in the forms of theses, monographs, and student papers from the Army’s higher-level professional schools, namely the Command and General Staff College (CGSC), School of Advanced Military Studies (SAMS), and the Army War College.⁴⁷ Of these studies, two, in particular, stand out because of their currency and rigor.

The first of these, Major Jon Meredith’s “Operational Risk and the American Way of War,” explores American doctrine from 1949 to the present “to identify the risk tendencies of modern U.S. ground forces and their roots” and leverages a case study of the primary Korean War campaign from November 1950 from two perspectives, that of the U.S. X Corps and its opponent, the Chinese People’s Volunteer Army.⁴⁸ Meredith argues that U.S. doctrine refers to risk often, but neither effectively defines it nor integrates risk into operational planning. In response, he develops and articulates a

⁴⁶ General Stanley McChrystal, Tantum Collins, David Silverman, and Chris Fussell, *Team of Teams: New Rules of Engagement for a Complex World* (New York: Random House, 2015), 222.

⁴⁷ See for example, Richard C. Halbleib, “No Guts, No Glory: Operational Risk Taking, Gaining an Maintaining the Tempo” (Monograph, School of Advanced Military Studies, Fort Leavenworth, KS, 1990); Lee T. Wright, “Operational Commander’s Risk Assessment: How Much Can You Really Afford to Lose?” (Student paper, Joint Military Operations Department, U.S. Naval War College, Newport, RI, 1997); Craig J. Price, “Risk in War: Using History to Inform a Common Method for Understanding and Communicating Risk in Joint Operations” (Master’s thesis, Joint Forces Staff College, Norfolk, VA, 2013).

⁴⁸ Meredith, i.

definition of operational risk (see chapter 1); central to his definition is the impact of uncertainty on the operation’s intended outcome. More importantly, he develops a textured operational-risk model comprising the interplay of five variables from both an enemy and friendly perspective: operational reach and terrain, assessment of the enemy, self-knowledge, guidance from higher headquarters, and phasing and transitions. He concludes that “the American way of war compels operational risk acceptance without properly integrating risk into operational planning.”⁴⁹

Major David Lamborn’s monograph, “Operational Risk Preparedness, General George H. Thomas, and the Franklin Nashville Campaign,” takes the theory of operational risk to the next level of analysis and synthesis. Lamborn asserts that the conceptual nature of operational-level war and the intangible qualities of risk frustrate the framing and implementation of a useful definition of operational risk. In response, he carefully examines existing doctrine, classical theorists (namely, Clausewitz and Sun Tzu), and the academic literature to define both operational risk and its corresponding principles. Importantly, he bounds operational risk by also defining tactical and strategic risk. He then applies this definition and these principles through a case study of General George H. Thomas’s decisive defeat of General John B. Hood in the American Civil War’s Franklin-Nashville campaign, arguing that Thomas “was more adept at preparing his organization for risk.”⁵⁰

⁴⁹ Ibid.

⁵⁰ Lamborn, iii.

The 1973 Arab-Israeli War and Studies of the Arab and Israeli Militaries

The extensive literature on this conflict and its combatants approaches, from several perspectives, the following key themes and topics: the broader strategic context (before, during, and after); the doctrines, equipment, and tactics that both sides employed; the effectiveness of the leadership at all echelons; and what both sides did or did not do to adequately prepare for the war. Understanding Israel's performance during the 1973 War, especially vis-a-vis their Arab opponents, is crucial to appreciating the role that operational risk played during the conflict and how it contributed to their military victory. Although none of the literature specifically treats this topic with any real depth, on the whole these materials provide important context: how Israel set conditions to effectively engage and respond to operational risk as well as how it performed (and why) when confronted with uncertainty during the conflict.

Shortly after the war's thirtieth anniversary, the Israeli scholar Uri Bar-Joseph noted that the conflict has never received the appropriate amount of formal academic attention that it deserves.⁵¹ Political scientist Carly Beckerman-Boys asserts that this remains a pertinent concern to this day.⁵² There are some notable exceptions, including two compendiums of scholarly essays published over the last fifteen years: *Revisiting the Yom Kippur War* and *The Yom Kippur War: Politics, Diplomacy, Legacy*. The first anthology, *Revisiting the Yom Kippur War*, edited by P. R. Kumaraswamy, provides

⁵¹ Uri Bar-Joseph, "Main Trends in the Historiography of the October War: A Thirty Year Perspective," *Journal of Israeli Military History* 24, no. 2 (2006): 251.

⁵² Carly Beckermann-Boys, "Assessing the Historiography of the October War," in Siniver, 11-28.

analytical depth and breadth to the strategic context of the war. The implications of the war, as demonstrated by the essays, catalyzed a substantive shift in the policies of Israel, their Arab neighbors, and the patrons of the various states. The war's intensity changed the perspective of these participants; diplomacy emerged as a more viable alternative in its aftermath. The individual essays span a broad range of subjects, including the failure of Israel's intelligence during the period leading up to the war's start (a favorite topic in the literature, more broadly) as well as the war's impact on Israeli society and politics, the war aims of both Arab combatants, and the nature of both the American and Soviet interventions. Additionally, several of the entries address the more specific military lessons of the war, most notably the limitations of reserve forces and the changing dynamics of the air battle.

The second anthology, *The Yom Kippur War: Politics, Diplomacy, and Legacy*, edited by Asaf Siniver, seeks to provide a thorough reassessment of the major themes that emerged during the war and its aftermath. Of note, there are several essays that address the domestic and external factors that influenced the respective approaches and policies of Israel, Egypt, Syria, and Jordan. The volume also explores super-power politics, including the oil factor and diplomatic dynamics.

Writings about the 1973 War are, however, dominated by popular history, political/military commentary, extended journalism, and participant accounts, all of which are inevitably influenced by the biases and motivations of their writers. A key theme in the popular history and commentary vein of the literature is the desire to ascertain why Israel was surprised. Many of these writings emerged during a time of deep national shame and embarrassment for Israel. Even though Israel triumphed militarily,

most agree that the war was a strategic failure; the aura of invincibility surrounding the IDF following the 1967 War had been destroyed by their seeming lack of preparedness for the 1973 War. The literature levied most of the blame on Israel's intelligence and senior political leadership. Good examples of this type of argument include *The War of Atonement: The Inside Story of the Yom Kippur War, 1973*, by retired IDF general and future Israeli President Chaim Herzog, and *The Yom Kippur War and the Airlift that Saved Israel*, by retired U.S. Air Force colonel and current director of the National Air and Space Museum Walter J. Boyne. Originally, there was no substantive criticism levied against the IDF for its lack of preparedness; but, over the last twenty years, a more honest, scholarly evaluation of some Israeli military mistakes has emerged. Topics for criticism include the IDF's overreliance on the tank, its lack of combined-arms integration, and its shift in strategic doctrine to something more defensive in orientation.⁵³

For the extended pieces of journalism, two works emerge above the rest because of the breadth, depth, and inclusiveness of their narratives. The first, by the Insight Team of the London *Sunday Times*, is *The Yom Kippur War*, published a year after the 1973 War. It attempted to synthesize the *Times'* extensive coverage of the war as it occurred with additional research into the causes and conduct of the war after the ceasefire. Although the book's editors rejected the use of footnotes, the contents draw readily on complementary accounts of the war, including multiple media sources in the West, Israel,

⁵³ See for example, George W. Gawrych, *The 1973 Arab-Israeli War: The Albatross of Decisive Victory*, Leavenworth Papers No. 21 (Fort Leavenworth, KS: Combat Studies Institute, 1996).

and the Middle East's Arab nations.⁵⁴ Abraham Rabinovich's *The Yom Kippur War: The Epic Encounter that Transformed the Middle East* is similar in scope, but incorporates an additional thirty years of research, including published memoirs, declassified government documentation, and over 130 participant interviews.⁵⁵

With respect to participant accounts, one must acknowledge both the Israeli⁵⁶ and Arab perspectives.⁵⁷ However, because of the more closed nature of Arab societies and governments as well as the fact that the published Arab-language books are infrequently translated into English, there is far more available from Israeli writers than from their Arab counterparts. The accounts are often filled with nationalist sentiment, but are rich with details concerning the war's planning efforts and operations at all echelons.

Finally, the literature on the Israeli and Arab militaries of the period is somewhat limited in scope, but sufficiently deep in quality. The most important work on the IDF before and up to the 1973 War is *The Israeli Army: 1948-1973* by Romanian military strategist, political scientist, and historian Edward Luttwak and historian Daniel

⁵⁴ The Insight Team of the London Sunday Times, *The Yom Kippur War* (Garden City, NY: Doubleday and Company, 1974).

⁵⁵ Abraham Rabinovich, *The Yom Kippur War: The Epic Encounter that Transformed the Middle East* (New York: Schocken Books, 2004).

⁵⁶ These are numerous, but, for example see Avraham Adan, *On the Banks of the Suez* (Novato, CA: Presidio Press, 1980).

⁵⁷ There are no formally published accounts from the Syrian perspective. However, there are three important works from senior-level Egyptian participants: Hassan el Badri, Taha el Magdoub, and Mohammad Dia el Din Sohdy, *The Ramadan War, 1973* (Dunn Loring, VA: T. N. Dupuy Associates, 1978); Mohammed Abdel Ghani el Gamasy, *The October War*, trans. Gillian Porter, Nadra Marcos, and Rosette Frances (Cairo: The American University in Cairo, 1989); Lieutenant General Saad el Shazly, *The Crossing of the Suez* (San Francisco, CA: American Mideast Research, 1980).

Horowitz. It provides detailed analysis of the IDF's evolution from an underground force during the 1948-1949 War for Independence to the modern, professionalized force of the 1960s and beyond. It examines the reasons (internal and external) behind its changing doctrines, approach to leadership, and the modernization of its equipment as well as a detailed assessment of its performance in the 1967 Six-Day War and the period of transition that followed.⁵⁸

Other important works complement and expand on many of the key themes in this book. Most prominent is Eitan Shamir's *Transforming Command: The Pursuit of Mission Command in the U.S., British, and Israeli Armies* to which the present study owes a great deal. Shamir examines how the IDF developed its decentralized, experienced-based system of command and control (something many commentators have called “optional control”) in which a penchant for taking risk, which they viewed as unavoidable in war, and exercising the initiative played large roles.⁵⁹ Martin Van Creveld's earlier work, *Command in War*, attributes the failure of the IDF's initial counterattacks against Egypt (8-10 October 1973) to a tank-heavy doctrine and poor initial command structure (a reverse of optional control). He explains that the IDF rapidly corrected these flaws, leading to its subsequent successes. Enduring factors in the IDF's doctrine help to explain

⁵⁸ Edward R. Luttwak and Daniel Horowitz, *The Israeli Army, 1948-1973* (Cambridge, MA: Abt Books, 1983). Compare this work, for example, with Zeev Schiff, *A History of the Israeli Army* (New York: Macmillan Publishing, 1974). Although revised, expanded, and republished in 1985, Schiff, a military correspondent for the Israeli daily *Ha'aretz*, wrote the work in the immediate aftermath of the 1973 War, a time during which the sense of the war as a blunder (or *mehdal*) was still pervasive; see Beckerman-Boys, 18, for an analysis of this later work within its context.

⁵⁹ Shamir, *Transforming Command*, 82-94.

these successes and its ability to adapt: individual daring (*heaza*), maintenance of aim (*dvekut bamatara*), improvisation (*iltur*), and resourcefulness (*tushia*)—all of which guided the IDF’s approach to and relationship with risk.⁶⁰ Additionally, Avi Kober’s recent essay, “The Rise and Fall of Israeli Operational Art, 1948-2008,” discusses IDF doctrine and their approach to command and control at the operational level of warfare.⁶¹

As for the Arab militaries of the period, there is far less available. However, Kenneth M. Pollack’s *Arabs at War: Military Effectiveness, 1948-1991*, does much to fill this gap in the historiography. He examines the organization, equipment, doctrine, and preparedness of each Arab military before the 1973 War as well as their conduct during the war, including an assessment of their effectiveness, at both the strategic and tactical levels.⁶²

The U.S. Army in the 1970s and 1980s

The historiography on the U.S. Army between the Vietnam and Persian Gulf Wars lacks the depth or synthesis of other interwar periods in the service’s history. The likely reason for this is the institution’s pervasive discomfort with the specter of (strategic) defeat in Vietnam. The number of formal, external-to-the-Army scholarly works are limited, although there are some important exceptions. Most of the literature on

⁶⁰ Martin van Creveld, *Command in War* (Cambridge, MA: Harvard University Press, 1985), 189-231.

⁶¹ Avi Kober, “The Rise and Fall of Israeli Operational Art, 1948-2008,” in *The Evolution of Operational Art: From Napoleon to the Present*, ed. John Andreas Olsen and Martin van Creveld (Oxford, UK: Oxford University Press, 2011), 166-194.

⁶² Kenneth M. Pollack, *Arabs at War: Military Effectiveness, 1948-1991* (Lincoln: University of Nebraska Press, 2002), 14-147, 447-551.

this important period of reform and modernization comes from command historians and soldier-scholars, many of whom were disgruntled by the experience of Vietnam.⁶³

The writing and rewriting of the Army's capstone doctrine, FM 100-5, from 1976 to 1986, and the roles played by Generals William DePuy and Donn Starry, the first two commanding generals of TRADOC, dominate the literature of this period. Major Paul H. Herbert's monograph, *Deciding What Needs to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations*, is as much a history of the 1976 version of FM 100-5 as it is a case study about the integrating role of doctrine within the U.S. Army as well as the responsibilities of the institution and its leaders to enable and implement doctrinal change. The author devotes an entire chapter to how the 1973 Arab-Israeli War influenced the 1976 version of FM 100-5. However, Herbert's analysis also illuminates how General DePuy's impatience prevented a broader appreciation of the war's insights at the operational level, work that would have to wait until General Starry assumed command of TRADOC later in the decade.

The extent and nature of the 1973 War's influence on TRADOC's first two commanders differed greatly. Historian Saul Bronfeld correctly argues that DePuy leveraged the war to emphasize and promote existing areas of focus for him (tactics, training, equipment), all of which already had strong roots in his experience as a combat commander during World War II and Vietnam (a line of argument with which Herbert would concur). Alternatively, General Starry's reforms, especially his focus at the operational level, were greatly influenced - and in a more open-minded way - by his

⁶³ Major Jon Zdeb helped to significantly clarify and improve the author's thinking on this period's historiography.

ongoing intellectual contact with the 1973 War as well as with several of its chief protagonists.⁶⁴

TRADOC historian John Romjue's monograph, *From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973-1982*, is perhaps the most frequently cited reference in this body of literature. In it, he provides an expansive review and analysis of the iterative development of the Army's capstone doctrine in the decade following Vietnam. He records and examines the causes and effects of the doctrinal debate that initially led to the North Atlantic Treaty Organization (NATO)-focused 1976 version of FM 100-5 and then ultimately to a more comprehensive and globally-scoped version in 1982. Romjue embeds his analysis within a broad historical context, a decade during which America's strategic perspective and sense of urgency shifted dramatically. The author also considers the roles played by TRADOC's first two commanders, comparing DePuy's intense focus on tactics, training, and weapons to Starry's emphasis on the operational level of war, pursuit of a better balance between firepower and maneuver, and stress on integrating a finer understanding of the human dimension of combat.⁶⁵

Four works written external to the Army and from a more formal academic perspective stand out and are essential to understanding the U.S. Army's approach to operational risk after Vietnam. None of these works are devoted entirely to the period

⁶⁴ Saul Bronfeld, "Fighting Outnumbered: The Impact of the Yom Kippur War on the U.S. Army," *The Journal of Military History* 71, no. 2 (April 2007): 465-498.

⁶⁵ John L. Romjue, *From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973-1982* (Fort Monroe, VA: Historical Office, U.S. Army Training and Doctrine Command, 1984).

explored in the present study, but all commit a chapter to this period, placing its dynamics within the broader context of the Army's approach to war, doctrine, and the operational level, respectively. In the first, *The Echo of Battle: The Army's Way of War*, historian Brian Linn explores not only the doctrinal shifts, accentuating the increased importance the Army placed on the human dimension and the uncertainty of war, but also the means by which it sought to operationalize the doctrine through training and education.⁶⁶ Of note, Linn famously contested historian Russell Weigley's narrow characterization of the "American Way of War" as one with a preference for annihilation,⁶⁷ noting that it failed to adequately consider two other long-running traditions in the American way (deterrence and irregular warfare);⁶⁸ these concerns, both of which are valid, color his interpretation and assessment of the post-Vietnam Army.

In the second work, *U.S. Army Doctrine: From the American Revolution to the War on Terror*, historian Walter Kretchik provides the most detailed, analytical exegesis of the Army's capstone doctrine in the literature set against the backdrop of the Cold War and in response to the condition in which the Army found itself after Vietnam. In addition to the 1973 Arab-Israeli War, Kretchik discusses several other doctrinal influences,

⁶⁶ Brian McAllister Linn, *The Echo of Battle: The Army's Way of War* (Cambridge, MA: Harvard University Press, 2007), 193-232.

⁶⁷ Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (New York: Macmillan Publishing, 1973), xvii-xxiii, 128-152.

⁶⁸ Brian McAllister Linn and Russell Weigley, "'The American Way of War' Revisited," *The Journal of Military History* 66, no. 2 (April 2002): 501-533.

including competing foreign agendas and evolving Soviet doctrine, which would influence the U.S. Army's approach to operational risk.⁶⁹

In the third work, *Blitzkrieg to Desert Storm: The Evolution of Operational Warfare*, historian Robert M. Citino examines the Army's doctrinal renaissance and subsequent revolution through the lens of operational art and the operational level of war. He frames the debate that occurred during the period as one between maneuverists and attritionists, with the former ultimately prevailing through a more nuanced study of the 1973 Arab-Israeli War. Additionally, the maneuverists employed insights from the classical military theorists, both German and Soviet theory and doctrine, as well as the history and philosophy of war, particularly those writings that emphasized war's enduring qualities: something that was fundamentally uncertain, human, and a clash of wills.⁷⁰

Finally, in the fourth and most recent work, *Forging the Sword: Doctrinal Change in the U.S. Army*, organizational scientist Benjamin Jensen conducts “a comparative historical process-tracing of doctrinal reform in the U.S. Army” since 1945. Jensen explores the dynamics underpinning doctrinal change in an entrenched, conservative bureaucracy like the U.S. Army. Significant to the present study, he compares and contrasts the methods employed by Generals DePuy and Starry during their respective tenures as the commanding general of TRADOC, particularly their varying use of “incubators” and advocacy networks” to develop key concepts and principles and then

⁶⁹ Walter E. Kretchik, *U.S. Army Doctrine: From the American Revolution to the War on Terror* (Lawrence: University Press of Kansas, 2011), 193-220.

⁷⁰ Robert M. Citino, *Blitzkrieg to Desert Storm: The Evolution of Operational Warfare* (Lawrence: University Press of Kansas, 2004), 226-266.

to secure the necessary support from institutional leadership required for approval and implementation.⁷¹

Primary-Source Materials

Several collections of primary source materials are essential to this study's topic, including the papers and oral histories of senior leaders, U.S. Army reports and studies of the 1973 Arab-Israeli War, and documents related to a variety of efforts through which the Army sought to implement its new ideas following their codification within the doctrine.

With respect to the 1973 War, this study will use two types of primary-source materials. The first are those materials that detail how the war was planned and prosecuted by both sides. Available materials include the English-language participant accounts discussed earlier in this literature review. Additionally, more formal, academically-arbitrated Israeli efforts to discern lessons in the war's immediate aftermath will prove useful.⁷² Second, this study will closely examine and analyze the formal reports and studies that the U.S. Army generated in the two-year period immediately following the war.

⁷¹ Benjamin Jensen, *Forging the Sword: Doctrinal Change in the U.S. Army* (Stanford, CA: Stanford University Press, 2016), 25-86.

⁷² See for example, Louis Williams, ed., *Military Aspects of the Israeli-Arab Conflict* (Tel Aviv: University Publishing Projects, 1975), 238-265. In particular, see the papers presented by Lieutenant General David Elazar, Major General Binyamin Peled, and Lieutenant General Chaim Bar-Lev, who, during the 1973 war, served as the IDF chief of staff, commander of the Israeli Air Force, and commanding general of Southern Command (post-8 October 1973), respectively.

This study will also leverage the papers and oral histories of General William DePuy, who served as TRADOC commander from 1973-1977,⁷³ General Donn Starry, who served consecutively as commandant of the Armor Corps, commanding general of V Corps in Europe, and TRADOC commander from 1973-1981;⁷⁴ and General Paul Gorman, who was TRADOC's deputy chief of staff for training during DePuy's entire tenure.⁷⁵ As mentioned previously, Starry's materials are the most pertinent to this study because of the range of jobs he held across this critical period (armor tactics and equipment, operational-level combat command against the primary adversary, and commander of the Army's entire training, doctrine, and education enterprise). Moreover, because of that fact, he wrote and corresponded often (and well) and maintained intellectual contact with the 1973 War well beyond 1974-1976.

Finally, this study will examine and integrate insights from available documents concerning the Army's efforts to implement the doctrine—especially with respect to operational risk—in the warfighting force. These include but are not limited to materials

⁷³ For his oral history, see Brownlee and Mullen, III. For his selected papers, see Richard M. Swain, *Selected Papers of General William E. DePuy*, eds. Donald L. Gilmore and Carolyn D. Conway (Fort Leavenworth, KS: Combat Studies Institute, 1995).

⁷⁴ For his oral history, see Spruill and Vernon. For his selected papers, see Lewis Sorley, ed., *Press On!: Selected Works of General Donn A. Starry*, vol. 1 and vol. 2 (Fort Leavenworth, KS: Combat Studies Institute, 2009).

⁷⁵ For his oral history, see Paul F. Gorman, *Cardinal Point: An Oral History-Training Soldiers and Becoming a Strategist in Peace and War* (Fort Leavenworth, KS: Combat Studies Institute, 2011). His entire collection of papers are available online at the U.S. Army Combined Arms Center webpage at <http://usacac.army.mil/cac2/CSI/docs/Gorman/index.asp>.

describing the evolving curricula at the U.S. Army CGSC, SAMS, and War College.⁷⁶ Other key documents include those related to the formation of the National Training Center (NTC) and the Battle Command Training Program.⁷⁷ Moreover, a mix of documents describing a variety of other efforts, including the Fort Hood Leadership Study as well as the study conducted by the Army Research Institute and War College to develop and codify operational and strategic-level leader competencies, will be used.⁷⁸

⁷⁶ Ample materials on both the U.S. Army CGSC and SAMS are available in the archives at the Combined Arms Research Library in Fort Leavenworth, KS. Similar materials for the U.S. Army War College are available at the U.S. Army Heritage and Education Center in Carlisle Barracks, PA.

⁷⁷ Documents for both elements of the Combat Training Center program are available at the TRADOC archives at Fort Eustis, VA.

⁷⁸ See for example, Bettina Babbit, Sally A. Seven, Lawrence E. Lyons, and Ronald J. Sparks, *Fort Hood Leadership Study* (West Lake, CA: Essex Corporation, 31 December 1985). Additionally, Dr. T. Owen Jacobs, who conducted field research as an organizational psychologist with the Army Research Institute, has generously provided copies of documents associated with both the Fort Hood Leadership Study and with the Army Research Institute's efforts to develop and codify operational and strategic leader competencies.

CHAPTER 3

THE 1973 ARAB-ISRAELI WAR: OPERATIONAL RISK AND THE AVAILABLE LESSONS

It is better to be engaged in restraining the noble stallion than in prodding the reluctant mule.

— Moshe Dayan, quoted in Eitan Shamir, *Transforming Command*

In the October War, it was proved once more that defense is the powerful form of combat; inferior forces, well deployed in defensive positions, are able to stop the advance of superior forces. This lesson cannot change the old truth that, with defense alone—a war cannot be won . . . So, in order to win, one must attack, and the sooner the better . . . Not all our counterattacks were successful . . . All the counterattacks, however, did achieve their strategic aims of stopping the enemy's offensive initiative, and of dictating conditions favorable to the IDF for continued fighting.

— Lieutenant General David Elazar, “The Yom Kippur War: Military Lessons”

Introduction

The purpose of this chapter is to examine the IDF's conceptualization of, preparation for, and response to operational risk before and during the 1973 Arab-Israeli War. In other words, it seeks to determine the potential insights that were available to the U.S. Army, which would study this conflict extensively over the subsequent decade, drawing lessons that would influence its capstone doctrine and approach to fighting on the modern, mid-intensity, conventional battlefield. This chapter begins with an analysis of how the IDF conceptualized and prepared for risk in its training, education, planning, and preparation. Next, it looks specifically at the IDF's performance with respect to risk during the 1973 War. It attempts to bound operational risk by examining the dynamics of

strategic and tactical risk during the conflict. Then, it concludes with an analysis of the role that operational risk played along both fronts during the war.

(Operational) Risk and the IDF: Conceptualization and Preparation

On the eve of the Six-Day War in late May 1967, the newly appointed Israeli Minister of Defense, Moshe Dayan, compared Egyptian dispositions and decision-making in battle to those of the IDF: “One of our basic advantages over the enemy is our ability to improvise during the course of a battle and to do so quickly. Thus, our plans [need a design] to create situations in which the Egyptians [will] have to make operational changes, which they [will] do slowly and ineffectually.”⁷⁹ The question of risk is central to the above statement, which addresses one’s ability to make judgments and decisions under conditions of uncertainty. When commanders lack information they believe is necessary to make the most effective decisions, they can either delay the decision to collect that information or make the best possible judgment with the incomplete information available. This section seeks to understand how the IDF conceptualized and prepared for risk at the operational level prior to the 1973 War. It will examine what the IDF did to develop a learning organization with sufficient adaptability, initiative, agility, and resilience to effectively engage operational risk during the war.

Simply put, the IDF’s attitude toward military risk was that it was unavoidable.⁸⁰ This belief influenced their doctrine; the ways in which they assessed, selected, trained,

⁷⁹ Moshe Dayan, *Story of My Life: An Autobiography* (New York: William Morrow and Co., 1976), 322.

⁸⁰ Shamir, *Transforming Command*, 96.

and educated their leaders; and how they fought on the battlefield. The period between the 1956 and 1973 Arab-Israeli Wars was an important one for the IDF. Under the leadership of IDF Chiefs of Staff, Moshe Dayan (1953-1958) and Yitzak Rabin (1963-1967), the IDF developed and implemented a decentralized command system that depended heavily upon trust between leaders at all echelons, a willingness to embrace risk, and initiative.

Inculcated into and demanded of leaders at every echelon were the following traits: individual daring (*heaza*), maintenance of aim (*dvekut bamatara*), improvisation (*iltur*), and resourcefulness (*tushia*).⁸¹ Even as it modernized Israel's armed forces, the IDF did so in a way that continued to embrace its *bitsuism* military culture, one built around action-oriented individuals with a focus on getting things done.⁸² These traits and the IDF's military culture were a reflection of the fact that many of the IDF's senior leaders had matured in a military shaped, in many ways, by a more unconventional, special-operations-like approach to warfare—one imminently more comfortable with navigating uncertainty.⁸³

⁸¹ van Creveld, 196.

⁸² Luttwak and Horowitz, 181.

⁸³ For example, Dayan explained that the “unconventional ideas” and “unorthodox” methods of the British special operations officer Orde Wingate had a significant impact on his own thinking and the development of the pre-IDF Haganah militia; see Dayan, 45-47. Similarly, in 1949, the Israeli prime minister tasked a young Ariel Sharon with standing up the so-called Unit 101, a special-operations unit tasked with reprisal operations in response to Palestinian Fedayeen attacks. In the 1956 Suez War, Sharon commanded Unit 202 (the Paratroopers Brigade), which conducted a high-risk combined air envelopment and ground operational maneuver to seize the critical Mitla Pass on the Sinai Peninsula; see Ariel Sharon, *Warrior: An Autobiography* (New York: Simon and Schuster, 1989), 83-91, 133-153.

All members of the IDF entered service through the same pipeline (conscription). Cadre identified officers and non-commissioned officers through their initial performance and demonstrable potential (the cream of which went to the combat arms) and then channeled them into rigorous, high-attrition selection programs.⁸⁴ The IDF then cultivated its officers in an environment that encouraged them to accept the unpredictability and uncertainty of battle: their original plans would be inadequate and the enemy would behave in unanticipated ways. Rather than pause, they were taught to ruthlessly seek the initiative: “to impose their will on the confusion of battle and determine its outcome.”⁸⁵

However, some scholars have criticized the IDF for a failure to prepare intellectually and organizationally for the challenges of the operational level of war in the run-up to the 1973 Arab-Israeli War. Historian Williamson Murray argues that the IDF misread the lessons of the 1967 Six-Day War; in its aftermath, its leaders focused overwhelmingly on sustaining its tactical excellence (albeit heavily weighted away from traditional combined-arms doctrine) at the expense of operational-level thinking, concept development, and planning.⁸⁶ While, in some ways, these criticisms are fair in retrospect, they fail to completely address the cultural and historical contexts in which the IDF of this period operated and overlook IDF efforts that contradict some of these assertions.

⁸⁴ Sharon, 85-87.

⁸⁵ Don Horowitz, “Flexible Responsiveness and Military Strategy,” *Policy Sciences* (1970): 191-205; quoted in Luttwak and Horowitz, 174.

⁸⁶ Williamson Murray, *Military Adaptation in War: With Fear of Change* (Cambridge, UK: Cambridge University Press, 2011), 268-275.

What many call a deep-rooted anti-intellectualism in the IDF should be alternatively interpreted as a dedication to developing an aggressive, practically-oriented, and open-minded learning organization.⁸⁷ While the IDF never fully developed and implemented a level of professional military education commensurate with the U.S. Army War College, they did develop a staff college modeled on the U.S. Army's CGSC as well as a policy to identify and select more senior officers to attend advanced civilian academic educations.⁸⁸ Additionally, with the exceptions of the Prusso-German and Soviet military theorists, few modern militaries during this period formally recognized the operational-level of war⁸⁹ or what many contemporary commentators would call operational art.⁹⁰ Much of the military literature seeks to apply current operational-level definitions and concepts to the past performances of modern armies during this period.

⁸⁷ Some scholars have commented on the anti-intellectualism of the pre-1973 IDF. See for example, Dima Adamsky, *The Culture of Military Innovation: The Impact of Cultural Factors on the Revolution in Military Affairs in Russia, the U.S., and Israel* (Stanford, CA: Stanford University Press, 2010), 119-122; Shamir, *Transforming Command*, 88. However, one should interpret this more as an aversion to traditional military academies and the deep study of military theory (in an abstract sense) than as a lack of creative and critical thinking amongst the officer corps. The IDF's leaders were more practically oriented than many of their Western peers.

⁸⁸ Luttwak and Horowitz, 88. Then IDF Chief of Staff Moshe Dayan developed these programs during his tenure. The purpose of sending officers to civilian universities was to expose them to civilian views and to develop a respect for academic theories and minds.

⁸⁹ See for example, Edward Luttwak, "The Operational Level of War," *International Security Studies* 5, no. 3 (Winter 1980-1981): 61-79.

⁹⁰ On the origins of operational art, see Bruce W. Menning, "Operational Art's Origins," in *Historical Perspectives of the Operational Art*, ed. Michael D. Krause and R. Cody Phillips (Washington, DC: Center of Military History, 2010), 3-21.

Despite the assertions of some,⁹¹ many others assess that the IDF's senior commanders proved adept at the operational level.⁹²

Israeli commanders placed emphasis on experience and the intuition they derived from it, but were willing and able to plan meticulously, if the situation demanded it.⁹³ As political scientist Eitan Shamir has argued, the IDF "struck a balance between detailed planning and improvisation, independence and control; operational plans were devised and revised on the move, allowing commanders to seize fleeting opportunities."⁹⁴ Operational-level commanders provided intent and an initial scheme of operations, but "commanders were allotted free reign in making their own decisions with maximum flexibility, as long as they adhered to the assigned objectives and missions, and maintained the unity of command."⁹⁵

It would be a mistake, however, to see the IDF officer corps as a group of overly aggressive, reckless gamblers. Their emphasis on improvisation, resourcefulness, individual daring, and maintenance of aim was balanced by a deep commitment to the lives of their soldiers and to the operation's objectives.⁹⁶ Leaders were taught to think

⁹¹ See for example, Adamsky, 99.

⁹² See for example, Citino, 153-186; Kober, 166-177.

⁹³ See for example, Sharon, 189. Often heralded as the king of improvisation, his attack on the fortified positions at Um Katef, covering the crossroads at Abu Ageila, in the Sinai during the 1967 Six-Day War called for detailed planning at all echelons to ensure the appropriate combined-arms synchronization and control of the battle.

⁹⁴ Shamir, *Transforming Command*, 89-90.

⁹⁵ Kober, 177.

⁹⁶ McCullough, 69-70.

with both rigor and creativity. For example, on the eve of the 1973 Arab-Israeli War, the editors of *Armed Forces Journal* conducted an issue-length examination of Israel and the IDF. They interviewed an IDF officer who had attended both the IDF and U.S. Army staff colleges. When asked to compare the two experiences, he responded: “To be number one [at the U.S. Army Staff College], know the school solution. In Israel, you flunk out if you can’t come up with an original plan.” Similarly, they interviewed Yehuda Vallach, a professor of military history at the University of Tel Aviv, who offered the following observation: “First, we’re not tied down to theories and dogma: our thinking is open-minded. Second, it’s the ‘strategy of indirect approach’—doing the unexpected in space, time, and direction.”⁹⁷

Complementing their recognition of war’s inherent unpredictability and uncertainty, the IDF nevertheless often worked to anticipate major operational problems, and they conducted planning and experimentation accordingly. A good example of these efforts, which would come to play a significant role in the IDF’s efforts in the 1973 War against the Egyptians in the Sinai, was the development of the operational concept for crossing the Suez Canal. Then-Colonel Musa Peled, chief of doctrine in the IDF’s training branch, helped to frame the complexity of the problem through a staged demonstration for senior leadership in 1969. This catalyzed a dynamic period of experimentation and development culminating in a major, division-level combined-arms exercise in 1971-1972. Insights gained from this exercise led to the acquisition of the

⁹⁷ Thomas C. Steinhauser and Benjamin F. Schemmer, “Israel’s Defense Philosophy: What’s So Different?” *Armed Forces Journal* 111, no. 2 (October 1973): 35.

required bridging equipment, refinement of tactics and operational plans, and pre-fabricated staging points along the canal.⁹⁸

Historians Edward Luttwak and Daniel Horowitz have summarized the Israeli approach to battle, in the period up to and including 1973, as “often suspended between dynamism and utter chaos. Perhaps the main virtue of [their system of command] is that the ‘fog of war’ is not only taken into account but actually treated as a protagonist in the battle.”⁹⁹ The IDF’s conceptualization of risk was concerned as much about opportunity for gain, perhaps more so, than as the potential for loss. They viewed uncertainty as something with which they were more comfortable than the enemy. Guided by maintenance of aim and fueled by the individual daring of their leaders, uncertainty could serve as an ally amidst the chaos and unpredictability of the battlefield.

Bounding Operational Risk: Strategic and Tactical Risk during the 1973 War

At 2:00 p.m. on 6 October 1973, Egypt and Syria launched Operation Badr, a coordinated, two-front attack against Israel along both the Golan Heights and Sinai Canal. Their war aims were two-fold: the reacquisition of territories lost to Israel in the 1967 Six Day War and the rejuvenation of Arab pride. Unlike in 1967, the Arabs designed a war plan that exploited their strengths (mass, both in manpower and precision-guided weapons, as well as resiliency) while avoiding, or at least blunting, the IDF’s qualitative advantages in open maneuver warfare and air power. Their operational

⁹⁸ Adan, 245-249.

⁹⁹ Luttwak and Horowitz, 173.

approach was thus attritional, acknowledging the political and strategic reality that Israel neither could afford nor was it optimized for an extended, grinding, and high-casualty fight.¹⁰⁰ The attack took Israel by surprise, due in large part to an overreliance on something their strategic leadership called “the concept:” in short, that Egypt would not attack until achieving sufficient numbers of Soviet fighter-bombers to neutralize the Israeli Air Force on their own air bases and SCUD missiles capable of striking Tel Aviv.¹⁰¹

The surprise, scope, and intensity of the attack introduced enormous uncertainty into the picture and thus a great deal of risk at all three levels of war. Building upon this chapter’s first section, which explored how the IDF conceptualized and prepared for risk before the 1973 War, this section examines how the IDF responded to risk, at the strategic and tactical levels, during the conflict. The purpose is to isolate the IDF’s operational-level risk taking for further study in this chapter’s final section.

Strategic Risk in the 1973 Arab-Israeli War

As discussed in chapter 1, Major David Lamborn developed definitions for strategic, operational, and tactical risk that this present study will apply. He defines

¹⁰⁰ John A. Lynn, *Battle: A History of Combat and Culture from Ancient Greece to Modern America* (New York: Westview Press, 2003), 85. Lynn argues, “maneuver requires tactical flexibility and improvisation guides by accurate and timely intelligence, and Arab military culture . . . repeatedly found these abilities to be elusive. Thus, Arab armies have suffered in present day conflict where maneuver warfare has proven its superiority. Yet by military alchemy, the Egyptians created a set-piece battle ruled by attrition in October 1973.”

¹⁰¹ As discussed in chapter 2, this is a favorite and well-trod topic in the literature on the 1973 War; see Bar-Joseph, 11-35.

strategic risk as “balancing ends (political objectives) with means (national resources) over an extended and unknown period of time.” He argues further that appropriate actions taken in response to such risk include “setting achievable aims, committing sufficient resources, and working continuously to bolster public and international support.”¹⁰²

During the 1973 War, the key Israeli strategic decision makers were Prime Minister Golda Meir (and the Israeli Parliament or Knesset), her so-called “Kitchen Cabinet,” Minister of Defense Moshe Dayan, and IDF Chief of Staff David Elazar. This study argues that they made at least four key decisions to address risk at the strategic level during the war, excepting the ever-ambiguous question of Israel’s presumed nuclear arsenal and its potential deployment.¹⁰³

The first decision concerned the timing and scope of the IDF’s mobilization. Despite the aggregation of increasingly menacing evidence along both the southern and northern fronts over 4-5 October, the enduring influence of the “concept” continued to discourage Israel’s strategic leadership from coming to grips with the imminence of a

¹⁰² Lamborn, 29.

¹⁰³ A fifth such strategic decision concerned whether or not to deploy Israel’s presumed nuclear arsenal. However, since Israel pursued a policy of “nuclear ambiguity” (never formally acknowledging nor denying their possession of such weapons), the decision-making and risk calculus concerning their potential deployment in the war is addressed unevenly in the literature. Of note, Boyne argues that Dayan’s dominant role in Israel’s nuclear program may have adversely affected his decision-making approach during the war; see Boyne, 7. Additionally, current scholarship argues that at no point did Israel use the threat of deploying its nuclear weapons as leverage to facilitate increased U.S. materiel support during the conflict; see Simcha Dinitz, “The Yom Kippur War: Diplomacy of War and Peace,” in Kumaraswamy, 118.

large-scale Arab attack.¹⁰⁴ On 5 October, Dayan and Elazar did elect to place the regular IDF forces on their highest alert status (level C), the air force on full alert, as well as providing the equivalent of a warning order to the mobilization centers. Yet, Israel did not decide in favor of a large-scale mobilization until the morning of 6 October at a meeting of the Kitchen Cabinet, approximately six hours before the start of Operation Badr.¹⁰⁵ Differences in strategic outlook and doctrine between Dayan and Elazar on the eve of the war frustrated this decision-making process. Dayan favored deterrence and thus a smaller-scale mobilization, while Elazar perceived a greater and more imminent threat and thus preferred a much wider mobilization in order to proactively set conditions for counterattacking.¹⁰⁶ The collective failure of Israel's strategic leadership to navigate the uncertainty surrounding the intent of Egypt and Syria was undoubtedly their worst strategic decision during the period from the war's eve through its conclusion nearly three weeks later. IDF reserves would not start to arrive on the fronts until 7 October and would not be fully integrated into the fighting until 8 October. This delay, especially along the Golan Heights, would have nearly catastrophic consequences, dramatically increasing the uncertainty and risk to which the IDF's operational and tactical leaders would have to respond.

¹⁰⁴ Herzog, *The War of Atonement*, 47-54; The Insight Team of the London Sunday Times, 107-113.

¹⁰⁵ Michael Brecher, *Decisions in Crisis: Israel, 1967 and 1973* (Berkeley, CA: University of California Press, 1980), 192-200.

¹⁰⁶ Stuart A. Cohen, "Operational Limitations of Reserve Forces: The Lessons of the 1973 War," in Kumaraswamy, 82-85.

Second, the prime minister decided against conducting a preemptive strike at the aforementioned meeting of the Kitchen Cabinet on the morning of 6 October. Dayan argued that such a strike, even one far more limited in scope than what the IDF had executed in 1967, “would burden [their] prospects of securing the full support of the United States.”¹⁰⁷ This was likely the correct decision given the density and lethality of the Arab surface-to-air missile (SAM) threat and the potential loss (or degradation) of U.S. diplomatic action and military aid throughout the war in support of Israel.

Third, Israel needed to decide which front to designate as the initial strategic main effort. Israel’s defensive plans had long called for fighting along only one front at a time so the simultaneity of the Arabs’ two-front attack caused a strategic dilemma. After Dayan observed the desperation of the holding action along the Golan front, he initially recommended to Meir the execution of a tactical withdrawal and the establishment of a defensive line along the escarpment overlooking the Jordan Valley. Elazar’s subsequent decision to deploy Brigadier General Musa Peled’s reserve division to the Golan prevented the withdrawal and the assumption of such a defensive posture.¹⁰⁸ Then, on 8 October, Dayan, in conjunction with Elazar and the IDF general staff, decided to make the Syrian front and Northern Command the main effort, which was subsequently

¹⁰⁷ Dayan, 460-461. However, it should be noted that the United States did not explicitly hold Israel back from conducting a pre-emptive strike. See for example, the minutes of a meeting of President Nixon’s cabinet on 18 October 1973; Nina Howland and Craig Daigle, eds., *Foreign Relations of the United States, 1969-1976, Volume XXV: Arab-Israeli Crisis and War, 1973* (Washington, DC: Government Printing Office, 2011): 588-590.

¹⁰⁸ Herzog, *The War of Atonement*, 97-98.

approved by the cabinet.¹⁰⁹ This allocation of resources ultimately enabled a complete reversal of the situation along this front. Additionally, the deterioration of the Syrian effort also yielded the beneficial second-order effect of compelling the Egyptians to forgo their position of relative advantage in the Sinai, enabling the IDF to reassume the operational initiative.

Israel's defensive plans were a natural extension of its evolving doctrine. Their territorial gains from the 1967 War had provided them with much-needed strategic depth, more so along the southern front than in the north. Consequently, their approach shifted from one of preemptive attack to containment and counterattack.¹¹⁰ Defenses along both fronts were designed to allow the IDF to blunt or contain the initial Arab assault, buying time for mobilized reserves to deploy and counterattack. Israel's war aims were the retention of the occupied lands and to carry the fight into the Arab territory in advance of the anticipated superpower-imposed ceasefires.¹¹¹ It was this focus on counterattack and the desire to maneuver as deeply into hostile Arab territory as possible that was the fourth running theme in the risk calculus and decision making of Israel's strategic leaders.¹¹² Despite considerable stress, uncertainty, and complexity, Meir, Dayan, and Elazar largely avoided rash decisions, preserved precious decision space, and took strategic risks that

¹⁰⁹ Brecher, 172.

¹¹⁰ Shamir, *Transforming Command*, 90-91.

¹¹¹ For a description of the IDF's defensive plan along the Golan front, see Simon Dunstan, *The Yom Kippur War (1): The Golan Heights* (Oxford, UK: Osprey Publishing, 2003), 8-11; for their defensive plan along the southern front, see Simon Dunstan, *The Yom Kippur War 1973 (2): The Sinai* (Oxford, UK: Osprey Publishing, 2003), 22-23.

¹¹² See Brecher, 172-173 for a catalogue of these decisions.

surprised their counterparts in Washington, DC.¹¹³ Over the course of the war, their decision making and willingness to embrace risk walked a delicate line; Israel could not afford extended, attritional warfare, nor could it afford military defeat. The permission to counterattack aggressively along both fronts, including the crossing of the Suez Canal, enabled Israel to prevail militarily. However, even their military successes along both fronts could not compensate for Sadat's shrewd strategy; Egypt emerged from the war as the political victor.¹¹⁴

Tactical Risk in the 1973 Arab-Israeli War

Lamborn defines tactical risk as "identifiable hazards and known risks that have some probability of occurrence and some calculable magnitude of impact." In response, commanders must "conduct assessments to determine known risks and commit sufficient resources to reduce either probability or its impact at acceptable cost levels."¹¹⁵ The density, lethality, and intensity of the battlefields during the 1973 War generated myriad tactical risks.

Tactical leaders had to find ways to mitigate or counter the capabilities of the new precision-guided weapons, essentially rediscovering and re-implementing the combined-arms tactics from which they had strayed before the war. For example, prior to launching

¹¹³ See for example, Secretary of State Kissinger's conversation with the Central Intelligence Agency Director Colby and the Chairman of the Joint Chiefs of Staff, Admiral Moorer during the 19 October 1973 meeting of the Washington Special Actions Group Meeting in Howland and Daigle, 605-606.

¹¹⁴ Schiff, 208.

¹¹⁵ Lamborn, 29.

his counterattack on 9 October, Brigadier General Peled coordinated for a rolling artillery barrage in advance of his attacking tanks to suppress or neutralize the armor-hunting infantry integrated into the opposing Syrian elements.¹¹⁶ Similar efforts occurred on the southern front, where IDF commanders employed coordinated smokescreens and concentrated artillery fire as well as integrating greater amounts of infantry into their armored formations to counter the Sagger missile threat.¹¹⁷

Tactical risks also included dealing with the potentially debilitating effects of heavy casualties, fear, destroyed equipment, fatigue, and dehydration. The burden of managing these risks largely fell on the backs of the IDF's small-unit leaders. The IDF's approach to these risks was less a deliberate calculus than an outgrowth of the ways in which these tactical leaders were assessed, selected, and trained.¹¹⁸

Leaders at all echelons were expected to lead from the front and set a personal example of courage under fire. The 1973 War's casualty statistics bear out the cost of this leadership approach: of the 2,521 war dead reported by Israel in March 1974, 606 were officers (24 percent), higher even than the 20 percent officer-casualty rate during the Six Day War in 1967.¹¹⁹ This approach to leadership inspired subordinates and fueled the initiative and bias for the offense at the core of the IDF's doctrine, but it could also lead,

¹¹⁶ Abraham Rabinovich, 286.

¹¹⁷ Chaim Herzog, *The Arab-Israeli Wars: War and Peace in the Middle East* (New York: Random House, 1982), 255-256.

¹¹⁸ McCullough, 66-87.

¹¹⁹ "Israel's Officer Casualties Soar," *Armed Forces Journal*, 111, no. 7 (March 1974): 18. This blurb also compares the IDF officer casualty rates with those of the U.S. Army during the Vietnam War (9 percent) and World War II (7 percent).

occasionally, to the acceptance of unnecessary risks, limiting the ability of some officers to coordinate and control the broader battle.¹²⁰

The IDF and Operational Risk in the 1973 Arab-Israeli War

For the purposes of this study, the operational level of war aligns with the two fronts along which the IDF fought during the 1973 Arab-Israeli War: the Golan Heights, commanded by Major General Yitzhak Hofi, the general officer in command of Israel's Northern Command; and the Sinai, commanded by Major General Schmuel Gonon, the general officer in command of Israel's Southern Command.¹²¹ However, operational-level leadership during the war was vaguer than the above distinction suggests. As will be discussed in greater detail below, in some cases, IDF division commanders stepped up, while, in other cases, the IDF Chief of Staff, Lieutenant General Elazar, stepped down to exercise such decision-making influence.

Combining insights from Lamborn and Major Jon Meredith, this study applies the following definition of operational risk: "Any friendly decision, enemy action, or environmental change that presents opportunity for or poses a threat to the reason for which the operation was conceived in the first place, is filled with uncertainty, and

¹²⁰ Jonathan M. House, *Combined Arms Warfare in the Twentieth Century* (Lawrence: University Press of Kansas, 2001), 235. As an example, he discusses an incident that occurred on 8 October, the day of the IDF's failed counterattack in the Sinai, during which several field-grade commanders risked themselves in personal efforts to rescue an isolated Bar Lev strongpoint, leading to problems with the synchronization, command, and control of the broader fight; for more, see Adan, *On the Banks of the Suez*, 139-142.

¹²¹ However, as will be discussed below, Gonon was superseded on 10 October by Lieutenant General (Retired) Chaim Bar Lev, then Israel's minister of trade and industry, who was recalled onto active duty and placed in command of the "Canal Front."

requires action.”¹²² Because the operational level of war is fundamentally more complex and uncertain than the tactical level, operational commanders must prepare for—vice manage—risk at this level. As discussed in this chapter’s first section, such preparation was a key part of the IDF approach to leader development, training, and planning. Yet, once combat begins, commanders must respond to operational risk by “seeking to create and preserve friendly options, while actively reducing those of the enemy.”¹²³ Meredith’s modeling of operational risk identifies the variables that operational commanders must take into consideration to effectively engage and respond to risk at this level: they must relate their understanding of guidance from higher headquarters, their formations, the enemy, operational reach and terrain, and phasing and transitions to the operation’s overall purpose.¹²⁴

The Golan Heights

Northern Command’s operational purpose was to retain the Golan Heights and, if directed, to be prepared to carry the fight onto Syrian territory in order to gain the upper-hand during cease-fire negotiations. However, the enormity of the Syrian attack on 6 October and the close-run battle for the first thirty-six hours of fighting threw the viability of this purpose into serious doubt (see figure 3). The historiography typically frames the fighting along the northern front into three main phases: (1) the initial Syrian onslaught and the IDF’s holding action (6-8 October); (2) the stabilization of the front,

¹²² Lamborn, 29; Meredith, 5.

¹²³ Lamborn, 29.

¹²⁴ Meredith, 6-8, 56.

which included the initial, more limited-objective, hammer-and-anvil counterattack executed by *Ugdahs* Laner and Musa in the south (8-10 October); and (3) the broader counter-offensive into Syria to threaten Damascus (11-17 October).¹²⁵ As the fighting developed, there was an inverse relationship between the uncertainty confronting the Syrians and IDF: it increased for the former, while decreasing for the latter. Thus, as a result of the IDF's operational decision-making and battlefield performance, the degree of operational risk confronting the IDF along this front declined proportionately over the course of the conflict.

¹²⁵ See for example, Aker, 72-76, 85-92; Herzog, *The War of Atonement*, 78-145. The terminology for these phases, however, often varies. For example, Herzog consistently refers to the more limited counterattack of 8-10 October as the “counterattack” and the broader strike into Syria (starting on 11 October) as the “break-in.”

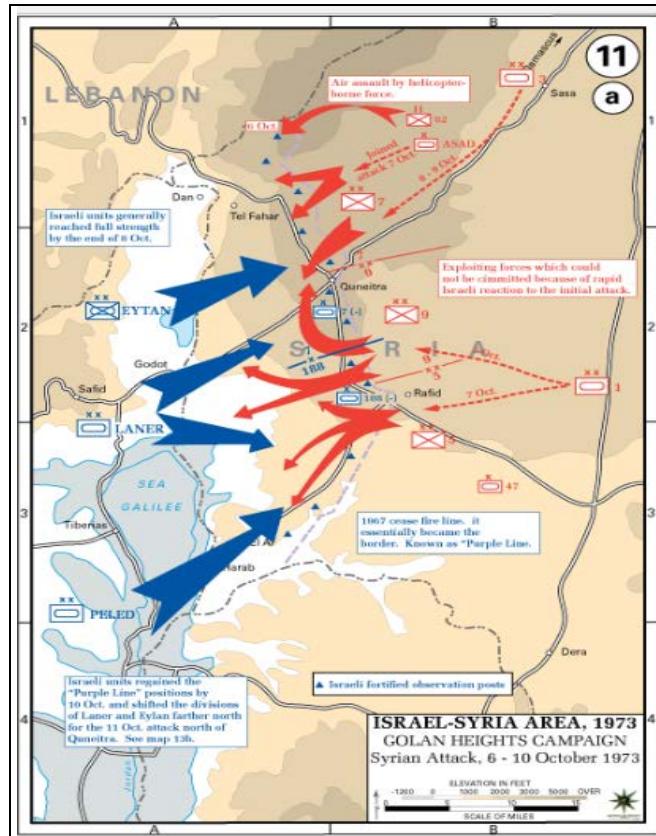


Figure 3. Fighting along the Golan Heights, 6-10 October 1973: Syrian Attack and IDF Counterattack

Source: U.S. Military Academy Department of History, "Arab Israeli Wars," Department of the Army, accessed 30 April 2016, <http://www.westpoint.edu/history/SiteAssets/SitePages/Arab%20Israel/ArabIsraeli11a.gif>.

However, in the beginning, the operational uncertainty and risk confronting the IDF were both high indeed. The initial Syrian onslaught nearly overwhelmed the dramatically outnumbered IDF defenders. Although the IDF's defensive preparations (firing ramps, artillery tables, ammunition resupply dumps, and obstacles, including minefields and anti-tank ditches) had been rigorous, the initial elements along the Golan included only the 188th Armored ("Barak") Brigade and Colonel Avigdor "Yanush" Ben Gal's recently arrived 7th Armored Brigade. Opposing them were three assaulting Syrian

mechanized infantry divisions and an exploitation force of two armored divisions, affording the Syrians enormous quantitative superiority in tanks, artillery, anti-tank, and air-defense weapons as well as soldiers. The IDF's assessments of the Syrian order of battle and dispositions had been reasonably accurate in the days leading up to the war,¹²⁶ but it dramatically underestimated Syria's capabilities and intent for a combination of reasons: an enduring commitment to the "concept;" a robust Syrian deception and operational-security program;¹²⁷ and the failure to fully comprehend the lethality and intensity of the precision-guided weapons that the Syrians would use against them.¹²⁸

The first two days of fighting were desperate. The IDF defenders were able to use their advantage in long-range gunnery to frustrate the initial penetrations of the Syrian infantry divisions, but the IDF's quantitative inferiority, the loss of the Mt. Hermon observatory and radar station,¹²⁹ and the inability of the air force to penetrate the Syrian

¹²⁶ See Rabinovich, 47-48; Dunstan, *The Yom Kippur War* (2), 29.

¹²⁷ The Insight Team of the London Sunday Times, 105-106.

¹²⁸ With respect to the precision-guided munitions, the IDF had observed the effectiveness of the Syrians' anti-tank weapons, especially the RPG-29, during several "battle" day encounters in 1972 and earlier in 1973. However, the Syrians' Soviet advisors had insisted that the Syrians demonstrate greater restraint in their employment of their new integrated air defense system; for example, during an air battle over Syria on 13 September, the Soviets denied them the fuses for their SAMs, effectively allowing the Syrian fighters to be shot out of the sky by the IAF's Phantoms and Mirages. See Dunstan, *The Yom Kippur War* (1), 23, 26.

¹²⁹ The loss of Mt. Hermon, which was not recaptured until 21-22 October, rendered the IDF effectively blind during most of the fighting. It was only once the IAF had overcome the SAM umbrella and through the ground commanders' effective use of elevated terrain that the IDF was able to visualize the scope and scale of the enemy confronting them.

SAM umbrella put considerable pressure on the defenders.¹³⁰ Despite extraordinary odds, the 7th Brigade held in the north, due, in large part, to the heroism, resilience, and tactical excellence of its subordinate elements.¹³¹ However, largely as a result of less defensible terrain, the Barak Brigade began to buckle in the south, and the Syrians exploited the emerging break-through with elements from its 1st Armored Division, significantly threatening Northern Command's forward headquarters at Nafekh and the Israel's settlements around the Sea of Galilee (see figure 3).

The second day of fighting, 7 October, was a pivotal day along this front; actions set conditions for the IDF to resume the initiative. On the Syrian side, Minister of Defense, Major General Mustafa Tlas, who was double-hatted as the overall military commander of the war, maintained a rigid hierarchical command structure and insisted upon close adherence to the original plan, greatly constraining available tactical maneuver to his forces.¹³² Ironically, though, in splitting the 3rd Armored Division in a fraught attempt to further reinforce perceived success along the front's south, he lost sight

¹³⁰ Jerry Asher and Eric Hammel, *Duel for the Golan: The 100-Hour Battle that Saved Israel* (Pacifica, CA: William Morrow and Co., 1987), 80-202.

¹³¹ Of particular note was the performance of Lieutenant Colonel Avigdor Kahalani's 77th Tank Battalion in the battle of the "Valley of Tears." See Avigdor Kahalani, *The Heights of Courage: A Tank Leader's War on the Golan* (New York: Praeger, 1992), 37-192.

¹³² See for example, Pollack, 502-509. Pollack criticizes the performance of the Syrian general staff in their management of the fighting, beyond the initial invasion plan. Rigid adherence to the original plan, unacceptable delays in deciding where and how to exploit success, and willingness to reinforce failure (especially with respect to their efforts against the IDF's 7th Armored Brigade along the northern part of the front) were only exacerbated by the Syrian Army's largely abysmal tactical performance.

of his original operational objectives.¹³³ The Syrians had, in other words, arrived at the end of their comprehensively detailed and rehearsed plan; they were now confronted with much of the same uncertainty as their IDF adversaries.

On the Israeli side, the IDF's mobilizing reserves began to arrive and, at least initially, commanders piecemealed them into the defensive line. It was during this time that the IDF's decentralized, more fluid system of command began to demonstrate its advantages. Although Hofi remained resilient and capable throughout the conflict, the arrival of Peled and Laner paid huge dividends in returning a sense of focus to the fight. Both commanders exercised prudent judgment as their rapidly mobilizing divisions approached the zone of contact. Laner worked out more effective sectors of responsibility with Brigadier General Rafael Eitan, who had previously been commanding the entire tactical fight, splitting their respective areas roughly along the Benot Ya'akov-Kuneitra road.¹³⁴ Peled demonstrated similar insight, gaining permission for his 146th Reserve Armored Division to advance along the axis south of the Sea of Galilee, wisely avoiding the Arik Bridge upon which Laner's division depended as its primary line of communication.¹³⁵ These decisions established a more stable operational-level foundation for the IDF's defensive efforts and, ultimately, its counterattacks.

Hofi was laboring under the intense stress of the fight, focusing almost exclusively on how to strengthen the IDF's faltering defense. Upon Peled's arrival, the

¹³³ Dunstan, *The Yom Kippur War (I)*, 53.

¹³⁴ Herzog, *The War of Atonement*, 99-100.

¹³⁵ Asher and Hammel, 207.

exhausted Hofi asked him to form a defensive line along the River Jordan, which would have effectively abandoned the Golan Heights to the Syrians. In response, Peled said: “I don’t believe in defense. I believe we have to attack.”¹³⁶ Hofi reconsidered his guidance and then asked Peled to attend a meeting of senior commanders later that evening at which the recently reactivated Lieutenant General Chaim Bar Lev would be present. Peled convinced Hofi, Bar Lev, and ultimately Elazar of the utility of a counterattack, as it would threaten Syrian lines of communication, forcing them to withdraw forces from where they had made their most considerable gains.¹³⁷ Rather than seeking to fully stabilize the (largely) defensive fight along the front, the Israelis decided to pursue the initiative and counterattack, forcing the Syrians to react, just as the Syrians’ own plan was becoming increasingly uncertain.

Over the next three days, the counterattack met considerable resistance, especially since the IDF’s lack of combined-arms integration continued to make them vulnerable to anti-tank weapons, but succeeded in forcing the Syrians off the Golan Heights (see figure 3). Peled’s division advanced north, now with greater air support (as the air force continued to crack the code on the Syrian’s integrated air defenses), while Laner’s division maneuvered south and east. They succeeded in creating a pocket around Hushaniya (enveloping and destroying two Syrian brigades) and seized the Syrian headquarters at Tel Kudne, effectively forcing the Syrian forces behind the so-called “Purple Line,” demarcating the post-1967 zones of occupation along the Golan Heights.

¹³⁶ Quoted in Rabinovich, 209.

¹³⁷ Herzog, *The War of Atonement*, 116-118.

In their wake, the Syrians left 867 destroyed or abandoned tanks along with thousands of other vehicles, anti-tank guns, and air-defense systems.¹³⁸

After stabilizing the front and eliminating what had been an existential threat to its survival, Israel now faced a strategic dilemma over whether or not to conduct an operational-level counter-offensive into Syrian territory. There were countervailing reasons for and against conducting such a deep attack. On the one hand, executing a counter-offensive of this scope and scale could more permanently knock the Syrians out of the war, and there were rising concerns about its resilience, given the in-flow of Soviet materiel, the mobilization of large Iraqi forces, and the strong possibility that Jordan would also join the fight. On the other hand, striking into Syria might provoke Soviet intervention and carried the threat of an extended attritional battle that Israel could not afford.¹³⁹ In the meeting to recommend the counterattack to Meir, Dayan recounts that the prevailing view was the “need to strike a crippling blow against the Syrian army. It would be possible thereafter to stabilize a cease-fire line on the northern front.”¹⁴⁰ The guidance to Northern Command was to penetrate to a depth of twenty kilometers, form a defensive salient, and bring Damascus under long-range artillery fire.

For the counterattack, Musa Peled’s division remained in the defense along two thirds of the Golan, while the divisions of Eitan (the main effort) and Laner attacked from the north along the route to Damascus (see figure 4). The IDF again ran into obstinate

¹³⁸ Herzog, *The Arab-Israeli Wars*, 291-293.

¹³⁹ Dunstan, *The Yom Kippur War (1)*, 67-70; Brecher, 211-212.

¹⁴⁰ Dayan, 516-519.

resistance, for the Syrians had fallen back upon a robust integrated area defense. Despite these initial set-backs, the IDF sustained the initiative, destroying much of the recently arrived Iraqi 3rd Armored Division on 12 October. On 14 October, they halted their offensive and consolidated their gains within a defensible salient, having achieved their operational objectives. Operational reach and terrain played considerable roles in the IDF's risk calculus. The terrain on the Damascus plain was not, in many areas, conducive to a static defense. However, the depth of their salient offered an acceptable balance between opportunity (postured to discourage Syrians from reentering the fight) and potential loss, the latter of which was significantly mitigated by the reduction of the SAM threat and returned air superiority of the Israeli Air Force.¹⁴¹

¹⁴¹ Rabinovoch, 318; Herzog, *The War of Atonement*, 140-143.

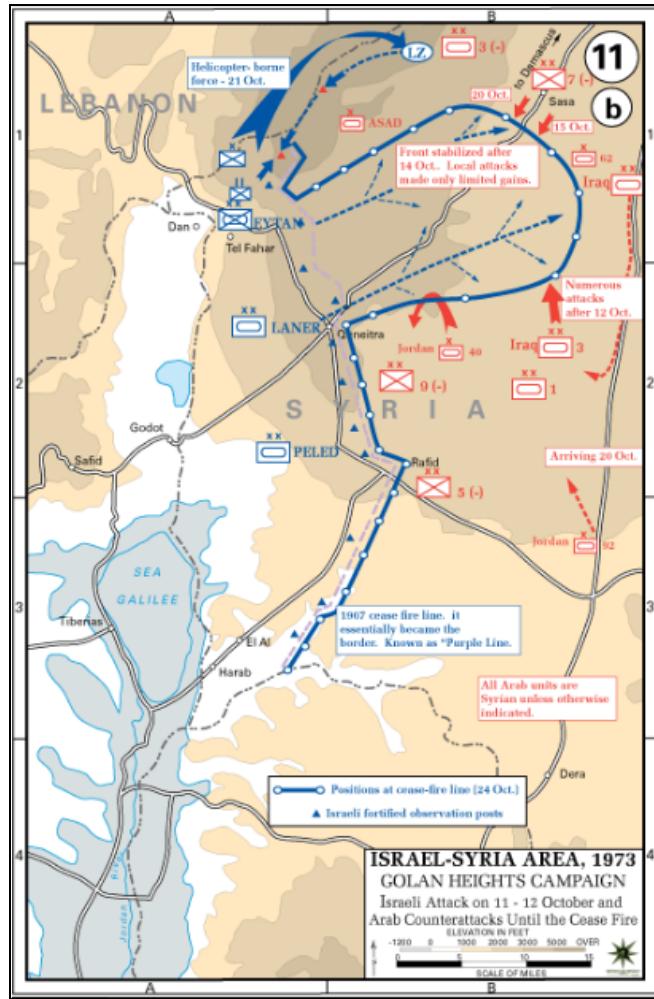


Figure 4. Fighting along the Golan Heights, 11-21 October 1972:
IDF Counter-offensive and Arab Counterattacks

Source: U.S. Military Academy Department of History, “Arab Israeli Wars,” Department of the Army, accessed 30 April 2016, <http://www.westpoint.edu/history/SiteAssets/SitePages/Arab%20Israel/ArabIsraeli11b.gif>.

In summary, over the course of the fighting along the Golan Heights, the IDF consistently sought to gain, maintain, and exploit the initiative, even when conventional military logic would have seemed to suggest a more conservative course of action. At two points, the fighting had arrived at an inflection point enshrouded in uncertainty and

thus rich with operational risk: on 8 October, as mobilizing reserves were being piecemealed into the defensive effort to stem the Syrian attack; and, on 10 October, after the IDF's initial counterattack succeeded in throwing the Syrians off the Golan Heights and north of the Purple Line (see figure 5).

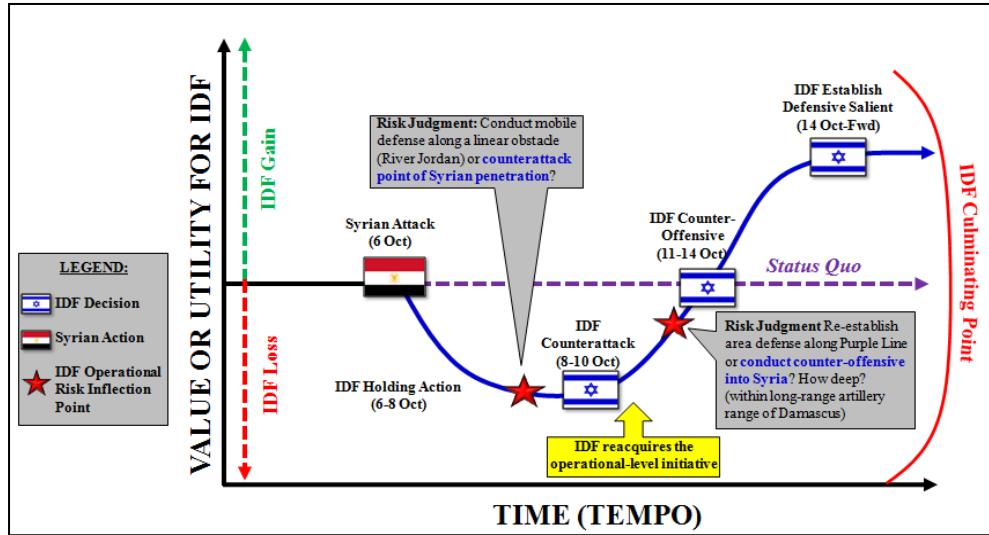


Figure 5. The IDF and Operational Risk Taking on the Golan Heights

Source: Created by author.

In both cases, the IDF elected to pursue the riskier, less certain option. The impact of these choices was three fold. The IDF's aggressiveness—backed by qualitative tactical superiority and a more fluid, decentralized command system—effectively increased their options, while decreasing those available to the Syrians. It also reduced the uncertainty with which it was confronted, while dramatically increasing that confronting the Syrians. Finally, their approach to operational risk allowed them to dictate the fighting's tempo

and drive the psychological momentum in their favor, a key factor in competitive cycles of decision-making.¹⁴²

The Sinai

The situation along the southern front shared many similarities with that along the Golan Heights, but was also distinguished by several significant differences. Similar to Northern Command, Southern Command's operational purpose (codified in Operation Dovecote) was to retain the Sinai through containment of the initial assault followed almost immediately by aggressive counterattacks into Egyptian territory.¹⁴³ Unlike the northern front, where the Golan Heights offered limited strategic depth, the Sinai afforded the IDF sufficient space to trade for time. In spite of this, the IDF did not build any operational flexibility into their plan; fighting an initial delaying action was never under serious consideration. Following an August 1972 war game (Battering Ram), the IDF assumed that, provided sufficient advanced warning from AMAN, Israel's military intelligence directorate, it would be able to not only destroy an Egyptian bridgehead in

¹⁴² See for example, Secretary of State Kissinger's conversation with Mr. William Clements from the Department of Defense and Chairman of the Joint Chiefs of Staff Admiral Moorer during the 19 October 1973 meeting of the Washington Special Actions Group Meeting in Howland and Daigle, 609-610. At one point, Clements tells the group that the Arab forces are in "chaos," and later describes the state of coordination between the Jordanians, Iraqis, and Syrians: "Apparently the Jordanians got in a real mess. The Iraqi and Syrians started shooting at each other and the Jordanians were chewed up by the Israelis."

¹⁴³ Adan, 249: "Every IDF commander was deeply imbued with the idea that we would have to cross [the Suez Canal] at some point; this was an organic part of the IDF's doctrine of transferring the war to enemy territory and terminating it there quickly. We had spent years preparing for this."

less than twenty-four hours, but also be able to cross the Suez Canal and counterattack into Egypt by the end of the third day.¹⁴⁴

Additionally, the so-called Bar Lev line, originally a loosely integrated series of thirty-two frontline IDF strongpoints hand-railing the Suez Canal, had been allowed to fall into a state of disrepair and neglect by the previous General Officer in Command, Southern Command, Major General Ariel Sharon.¹⁴⁵ When the Egyptians launched their five-division assault, the IDF had only 468 reservists in sixteen strongpoints supported by 290 tanks, twelve artillery batteries, and two Hawk SAM batteries.¹⁴⁶ These remote forts were not only incapable of resisting the mass of the assaulting Egyptian Army, but, once isolated, they caused the IDF to behave rashly in efforts to recover them.

The historiography is inconsistent about how to frame the fighting along the southern front into phases, but this study will use four: (1) the initial Egyptian canal crossing and consolidation of their gains on the east bank (6-7 October); (2) the fight for the bridgeheads (7-13 October), including the failed IDF counterattack on 8 October; (3) the failed Egyptian offensive (14 October); and (4) the IDF's operational-level counteroffensive, highlighted by its ambitious crossing of the Suez Canal and ultimate

¹⁴⁴ Rabinovich, 17-21.

¹⁴⁵ Sharon, 218-227. The ever-political and abrasive Sharon clashed often with Lieutenant General Chaim Bar Lev, who, as IDF chief of staff from 1968-1971, had ordered the construction of the defensive line following the Six-Day War. Sharon, as general officer in command of Southern Command from 1969-1973 and a fierce advocate of more open, maneuver-based armored warfare, did his best to undermine the forts, while seeking to set conditions for the counterattacks to be able to cross the Suez.

¹⁴⁶ Dunstan, *The Yom Kippur War* (2), 23.

encirclement of Egypt's Third Army (15-21 October).¹⁴⁷ Importantly, the period of transition between the second and third phases represents one of the most extended periods of uncertainty during the war, and thus a decision-making environment rich with operational risk. Moreover, unlike the northern front, where uncertainty and risk diminished significantly after the success of the Peled/Laner counterattack, the IDF's senior leaders continued to confront substantial operational risk until the closing days of the war.

The ferocity, precision, and mass of the initial Egyptian onslaught crushed the IDF's thin line of resistance (see figure 6). The Egyptian Minister of War, Ismai'il Ali, designed a war plan, as historian John Lynn has commented, "adapted to the military culture of his army." To thwart the improvised style of maneuver warfare that the IDF preferred and in which it was vastly superior, Ismai'il's plan played to the strength of Egyptian soldiers' resilience in deliberate, set-piece battles complemented with dense networks of precision-guided anti-air and -tank weapons.¹⁴⁸

¹⁴⁷ Pollack, 108-123 comes closest to this study's proposed phasing. Compare with Herzog, *The War of Atonement*, 128-250; he divides the fighting into an initial onslaught, fighting along the Bar Lev line, the failed IDF counterattack, and the crossing, but elides the decisive tank battle on 14 October with the period of uncertain and risky transition from 9-13 October.

¹⁴⁸ Lynn, 299-300.

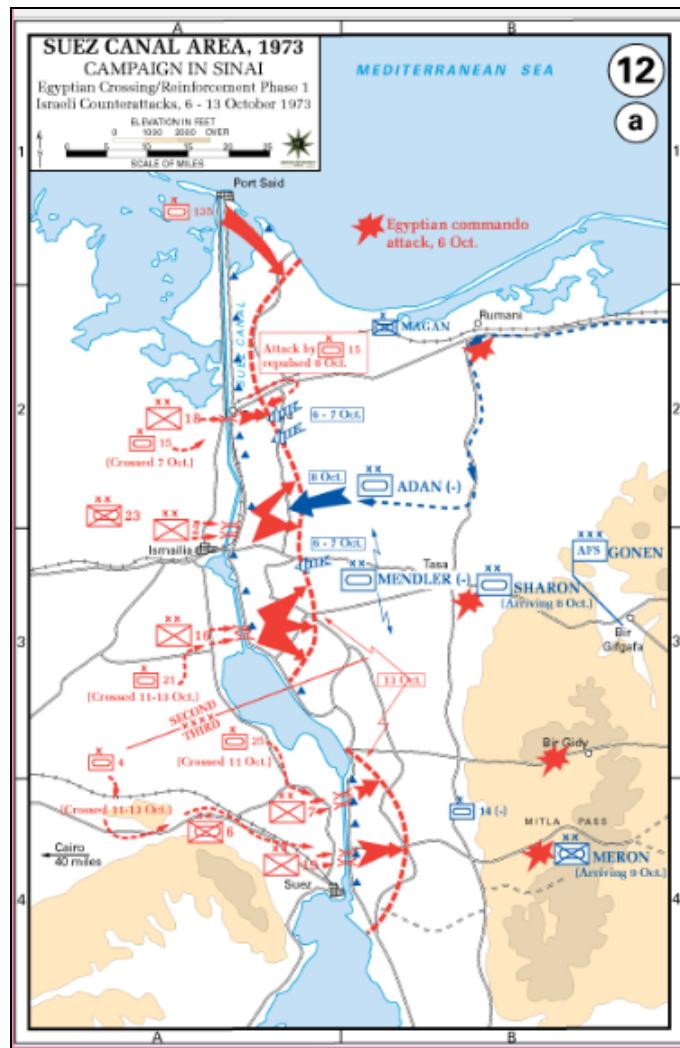


Figure 6. Fighting along the Sinai Front, 6-13 October 1973: Egyptian Crossing/Reinforcement and IDF Counterattacks

Source: U.S. Military Academy Department of History, "Arab Israeli Wars," Department of the Army, accessed 30 April 2016, <http://www.westpoint.edu/history/SiteAssets/SitePages/Arab%20Israel/ArabIsareli12a.gif>.

Soviet advisors had originally coached a three-phase plan comprising a canal crossing, drive to the key passes, and then conquest of the Sinai. Yet, Isma'il, upon his ascent to minister of war, essentially dismissed the final two phases and rigorously developed the first into the war plan that Egypt executed during the first two days of

fighting. The Egyptians would employ a strategic offensive followed by a tactical defensive. Furthermore, the Egyptians insisted on exhaustively scripting and rehearsing the operation, down to the minutest tactical detail.¹⁴⁹

Compounding the IDF's difficulties was a muddled picture of Egypt's intent and capabilities. Much like with the Syrians, an uncritical devotion to the "concept,"¹⁵⁰ a robust Egyptian deception and operational-security plan,¹⁵¹ relative ignorance of the density and lethality of their precision-guided weapons,¹⁵² and the lack of either operational or tactical intelligence during the opening phase of Egypt's attack¹⁵³ created a cloud of uncertainty within which the IDF's performance was, at least initially, severely degraded.

¹⁴⁹ Pollack, 101-103. On the rigor of Egyptian preparations, see also, Herzog, *War of Atonement*, 34-35; Dunstan, *The Yom Kippur War (2): The Sinai*, 19-20.

¹⁵⁰ Bar-Joseph, 17-20.

¹⁵¹ el Shazly, 208-216; The Insight Team of the London Sunday Times, 109-111.

¹⁵² The density and lethality of Egypt's integrated air defenses, in particular, surprised the IDF. The integration of the more mobile SAM-6s (new to the theater) staggered pilots attempting to provide close air support to IDF ground forces. One Israeli Skyhawk pilot described the experience thusly: "It was like flying through hail. The skies were suddenly filled with SAMs and it required every bit of concentration to avoid being hit and still execute your mission." Quoted in Hanoch Bartov, *Dado: 48 Years and 20 Days* (Tel Aviv: Ma'ariv, 1981), 367; cited and discussed in Gawrych, 33.

¹⁵³ Following the destruction and/or isolation of the Bar Lev line outposts, the IDF lost one its most important sources of intelligence. Surprisingly, over the next two days, the only comprehensive intelligence collection attempted by the IDF was a single helicopter reconnaissance conducted by Brigadier General Pino, the chief of staff for Major General Mandler's division; see van Creveld, 205-206; Herzog, *The Arab-Israeli Wars*, 249.

Believing the Egyptian infantry would cave in at the sight of a massed Israeli armored assault, the IDF planned and executed a hasty, division-level counterattack (see figure 6). On 8 October, the IDF charged into this fog with its characteristic élan and was met with a withering hail of surface-to-air and anti-tank-guided missiles.¹⁵⁴ The IDF’s failure on this “black day,” in the words of Sharon, “stemmed from a combination of major tactical errors and also from an attitude of overconfidence that since the Six Day War had hardened into arrogance.”¹⁵⁵ As Martin van Creveld has argued, this wasted, costly operation was not only the result of the IDF’s dilution of combined-arms warfare and overconfidence, but also the product of: “a faulty command organization; a lack of mutual trust among the senior commanders involved; incomprehensible staff procedures; and the absence of a directed telescope to supplement the flow of information from below with an active request for it from the top.”¹⁵⁶ In other words, the dynamic, decentralized system of command that the IDF had pioneered over the previous twenty years had been undercut not only by its tactical errors, but also by senior leaders whose ego-inspired

¹⁵⁴ Herzog, *The War of Atonement*, 191-192. Herzog is exceptionally critical of the IDF’s attack on this day, criticizing not only the lack of combined-arms integration but also the failure to concentrate sufficient forces to achieve a penetration and set conditions for a canal crossing and subsequent exploitation.

¹⁵⁵ Sharon, 303.

¹⁵⁶ van Creveld, 231. His chapter, “Masters of Maneuver Warfare,” is a case study of the 8 October counterattack through the lens of the IDF approach to command and its doctrine of maneuver war. Its failure, in large part, was the result of a corruption of the system of “indirect control,” in which IDF risk taking lacked the framework to respond, adapt, and succeed.

bickering and lack of trust exacerbated the most hazardous aspects of the IDF's aggressive operational approach and doctrine.¹⁵⁷

However, 8 October did not break the IDF. As Major General Avraham Adan, the commander whose division had borne the brunt of the fighting that day, later remarked: “[many of my men] could not grasp what was happening, but their fighting spirit never broke.” Adan did not object to the decision to counterattack, but rather the way in which it was planned and executed.¹⁵⁸ Although the IDF would never completely address their lack of combined-arms integration, they successfully addressed the pernicious issues with command and control by effectively relieving Gonen and replacing him with Bar Lev. Furthermore, the heavy fog of uncertainty that had enshrouded the front for the past three days began to clear for the IDF and intensify for the Egyptians.

On 9 October, Syria called for more aggressive offensive action from its Egyptian allies as its position against the IDF continued to deteriorate along the Golan Heights. The Egyptians had planned and rehearsed, in excruciating detail, the fighting that they had executed through this stage of the operation, but they had only reluctantly considered

¹⁵⁷ In contrast to the northern front, several of the senior commanders on the southern front, most notably, division commander, Major General Ariel Sharon, and his “boss,” Major General Shmuel Gonen, allowed ego and politics to interfere with their decision-making and respect for the chain of command. Unity of effort, especially in the fighting’s open phases suffered as a result. The depth and breadth of these tensions became increasingly evident after the war’s conclusion; see for example, William Mehlman, “Israel’s Generals . . . Too Much Politics?” *Armed Forces Journal* 111, no. 7 (March 1974): 30-34.

¹⁵⁸ Adan, 163-164. His memoirs is acknowledged, by many, as one of the fairest and most balanced of those written by IDF flag-officer participants. The whole second part of his book (pages 91-164) covers the failed counterattack, including Lieutenant General Elazar’s initial plans, Major General Gonen’s uncoordinated changes, its execution, and his personal assessment of the operation.

potential follow-on actions.¹⁵⁹ Over the next two days, the Egyptians had a division-level attack blocked by Adan's division and a tank brigade, which maneuvered outside of the SAM umbrella, destroyed by IDF armor and aircraft (see figure 6). Despite this evidence and the enduring conservatism of the Egyptian Chief of Staff, Lieutenant General Shazly,¹⁶⁰ the pressure coming from the Syrians and the aggressiveness of the Egyptian Army Chief of Operations, Lieutenant General Mohamed Abdel Ghani el-Gamasy,¹⁶¹ convinced Sadat to renew his offensive against the IDF. On 11 October, Sadat committed the bulk of his remaining combat power across the canal to the Suez's east bank.

That same day, unaware of accelerating plans for a major Egyptian offensive, the IDF began designing a plan to cross the Suez. Believing that defeating Egypt, especially in a decisive fashion, was no longer viable in the near term, Elazar promoted the decision to cross as a means by which to provoke a cease-fire and provide the IDF with sufficient time to rebuild its battered army. Among the IDF's senior leaders, at both the strategic and operational levels, there was still much uncertainty: crossing the canal might provoke an extended attritional battle, which the IDF could not afford; the Israeli Air Force was, according to its commander, Major General Benny Peled, at its red line; and the Egyptians still had considerable quantitative advantages complemented by their dense

¹⁵⁹ As discussed previously, Ismai'il had focused almost exclusively on just crossing the canal and consolidating his gains along a thinly penetrated defensive line on the Suez east bank. He was reported to have said that all that was needed was "the canal crossing and ten centimeters of the Sinai;" quoted in Avraham Sela, "The 1973 Arab War Coalition: Aims, Coherence, and Gain Distribution," *Israel Affairs* 6, no. 1 (Autumn 1999): 47; cited and discussed in Pollack, 101.

¹⁶⁰ el Shazly, 241-246.

¹⁶¹ el-Gamasy, 260-280.

formations of precision-guided weapons. However, by 12 October, the Mossad received and communicated a critical piece of intelligence that energized and gave greater focus to the IDF planning and decision-making: the Egyptians planned to assault two distant objectives (the Mitla Pass and the Rafidim base) on either 13 or 14 October with a heli-borne paratroop force, a known precursor to larger-scale armored attack.¹⁶² Thus, IDF guidance, always aggressive and seeking the initiative, gained a greater degree of precision with the acquisition of more detailed knowledge concerning Egypt's intent.

On 14 October, Egypt, abandoning its original limited objectives, launched a massive offensive across the width of the Sinai for which the IDF was prepared and thus defeated decisively (see figure 5). Egyptian officers acknowledged the potential for loss inherent in their plans to advance further east beyond their initial footholds, including the inability to fully expand the protective scope of their air defense artillery umbrella, but they choose to do so anyway.¹⁶³ Rather than assault deliberately, i.e., at a pace allowing their more mobile SAM systems to advance their protective coverage, the Egyptians reverted to more dynamic, open-warfare maneuver tactics for which their leaders and soldiers were completely unprepared.¹⁶⁴ The Egyptians loss was overwhelming: the IDF destroyed 260 Egyptian tanks against a loss of only twenty in the largest armored battle

¹⁶² Rabinovich, 339-347.

¹⁶³ el Badri, el Magdoub, and el din Zohdy, 96-97.

¹⁶⁴ Brigadier General S.A. El-Edroos remarked: "The catastrophic defeat suffered by the Egyptian tank corps reflected the inability of Egyptian commanders, from divisional to troop level, to conduct mobile, flexible, and fluid armor operations;" quoted in Brigadier General S. A. El-Edroos, *The Hashemite Arab Army, 1908-1979* (Amman: Amman Publishing Committee, 1980), 508; cited in Pollack, 117.

since Kursk in 1943.¹⁶⁵ This victory decisively swung the initiative, at both the strategic and operational levels, in the IDF's favor.¹⁶⁶

Over the subsequent days, the collection and analysis of information and intelligence for the Egyptians would degrade, while that for the Israelis would improve markedly, reversing the levels of uncertainty confronting both armies a week earlier. Egyptian situational awareness already suffered from an overly hierarchical command structure which constrained decentralized decision making and information flow.¹⁶⁷ The collapse and corruption of their reporting in the days following their catastrophic defeat only exacerbated their ability to understand the situation and respond to it.¹⁶⁸

In contrast, the IDF had significantly accelerated their ability and willingness to fight for information; disciplined reconnaissance had discovered a seam between the two Egyptian field armies and the IDF was developing a much clearer understanding of Egyptian dispositions and strengths.¹⁶⁹

¹⁶⁵ Dunstan, *The Yom Kippur War* (2), 66-67.

¹⁶⁶ Sharon, 311; Sharon's ever-colorful language captures the impact of this battle on the course of the war: "With this blow to the Egyptians, the Israeli General Headquarters' psychology of defense became history. At last they decided it was time for us to move."

¹⁶⁷ Pollack, 561-563.

¹⁶⁸ The Insight Team of the London Sunday Times, 340: "There was no equivalent to the incessant Israeli patrol and reconnaissance activity . . . At the most basic level, the Egyptians simply did not tell each other what they were doing. Junior commanders simply fight the Israelis as and when they presented themselves, and gave no priority at all to making combat reports . . . There were no command centers closer to the fighting than Ismai'il's war room."

¹⁶⁹ Herzog, *The Arab-Israeli Wars*, 255.

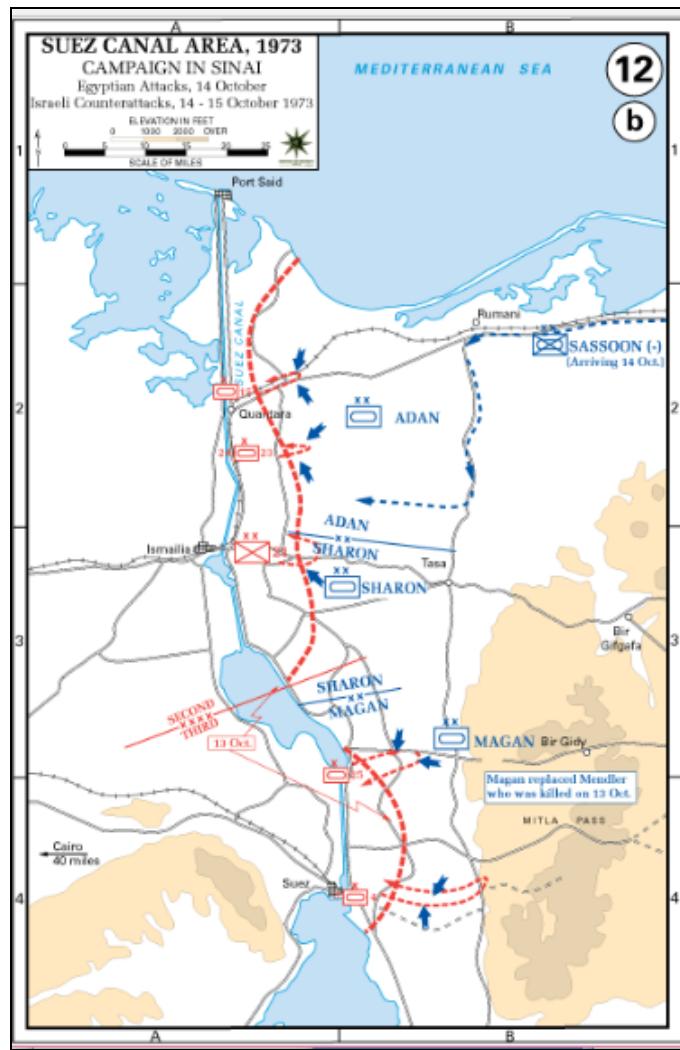


Figure 7. Fighting along the Sinai Front, 14-15 October 1973:
Egyptian Attack and IDF Counterattack

Source: U.S. Military Academy Department of History, “Arab Israeli Wars,” Department of the Army, accessed 30 April 2016, <http://www.westpoint.edu/history/SiteAssets/SitePagesArab%20Israel/ArabIsraeli12b.gif>.

The IDF’s plan to cross the canal purposefully embraced the existing uncertainty accepted substantial risks, especially with respect to operational reach and terrain, in order to maintain and exploit the initiative it had reacquired on 14 October. First, the IDF accepted that it would need to employ a shallow bridgehead, one still within range of the

Egyptians' larger-caliber, indirect-fire weapon systems. Second, instead of attempting to cross at multiple locations, the IDF would concentrate and sequence a multi-division crossing force between Egypt's Second and Third Armies.¹⁷⁰ Elazar acknowledged the role that risk played in their thinking:

We've built our plan on sound military thinking. If I thought there was a risk of disaster, I wouldn't propose it. The plan is not built on luck. We're not going to all this trouble so that if a bridge is hit, then the show is over. The outcome of a battle can only be presumed. It can't be divined with absolute certainty. I believe that the chances of failing are pretty meager and the odds of success are good. How great the success will be I can't say, but it may be very great.¹⁷¹

It is important to note that Elazar's use of the word risk suggests an association with the potential for loss. However, in the more neutral definition employed by this study, in which risk represents the effects of uncertainty upon one's objectives, the IDF's judgments and decisions suggest a greater degree of comfort with the uncertainty enshrouding the operation. In other words, the IDF operational commanders appeared confident that the effects of uncertainty would enable their objectives while adversely affecting those of the Egyptians.

The timetable of the Israeli crossing plan ultimately proved unrealistic, and they were consequently forced to fight through heavy resistance, on both sides of the canal, to achieve their operational objectives (see figure 6). On 15 October, Sharon's division advanced on the canal, seeking to exploit the seam, but encountered severe opposition in an area known as the Chinese Farm. That night, the IDF established a bridgehead on the western side of the canal with a paratroop brigade. Small armored elements then began

¹⁷⁰ Adan, 254-256.

¹⁷¹ Quoted in Rabinovich, 357.

raids against Egyptian SAM sites, opening gaps in the air-defense umbrella that the Israeli Air Force leveraged in order to increase close air support for the IDF's ground units.¹⁷²

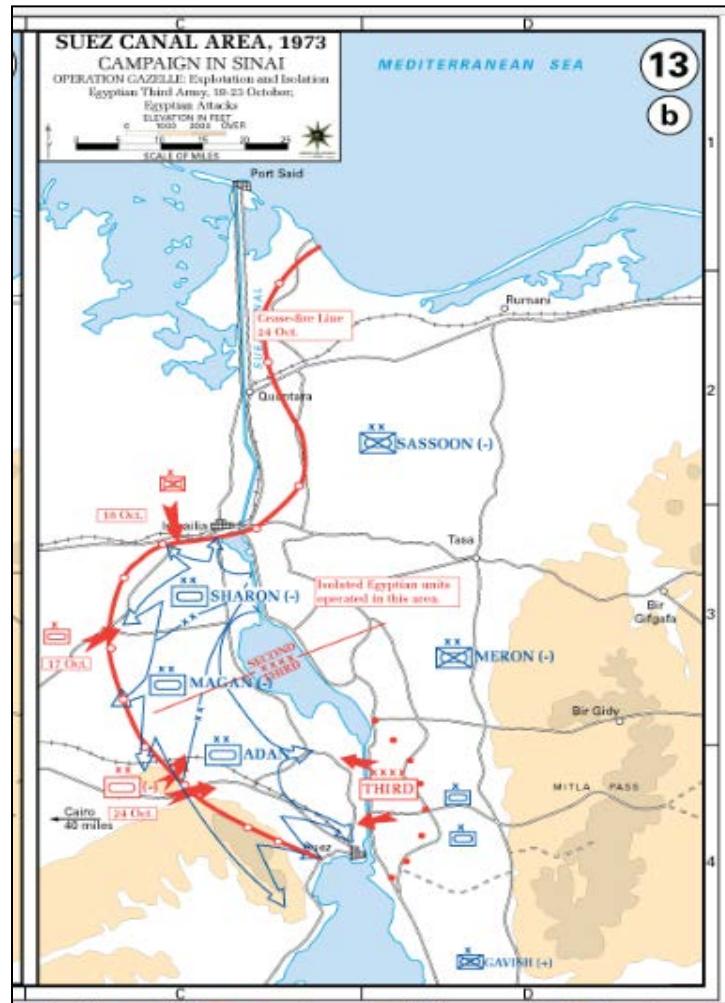


Figure 8. Fighting along the Sinai Front, 18-23 October 1973: IDF Canal Crossing and Isolation and Exploitation of the Egyptian 3rd Army

Source: U.S. Military Academy Department of History, "Arab Israeli Wars," Department of the Army, accessed 30 April 2016, <http://www.westpoint.edu/history/SiteAssets/SitePages/Arab%20Israel/ArabIsraeli13Combined.gif>.

¹⁷² Boyne, 150.

Over the next week, the IDF gradually expanded its bridgehead, attacking both south and north along the Suez's west bank (see figure 6). Egyptian resistance remained stiff, but, having abandoned their original attritional approach, the Egyptians became increasingly vulnerable to the IDF's strengths in open, maneuver warfare backed by a reinvigorated air force. Egypt's efforts to reduce the accelerating IDF momentum were limited by their rigidly hierarchical and top-down command system; Sadat denied the withdrawal of any Egyptian elements from the east bank, forcing Ismai'il to commit fully on that side of the canal, where his forces were more vulnerable to both Israeli ground and air elements.¹⁷³ The IDF fought through persistent uncertainty, but, more fully in control of competing decision-making cycles, it completed its encirclement of Egypt's Third Army on 21 October, and, by 24 October, super-power facilitated ceasefires halted hostilities.

In summary, the arc of the fighting along the Sinai front reflects a similar pattern to that exhibited along the Golan front. There were two key inflection points, where increased uncertainty and a decision-making environment rich in risk had stalled the tempo of the fighting: on 7 October, after the Egyptians had successfully crossed the Suez Canal, breached the Bar Lev line, and were consolidating their gains along the canal's eastern bank; and, on 14-15 October, after the IDF had decisively defeated Egypt's attempted offensive to seize the strategically significant passes further east. Again, the IDF pursued the riskier, less certain operational option in both cases (see figure 9).

¹⁷³ Gawrych, 64.

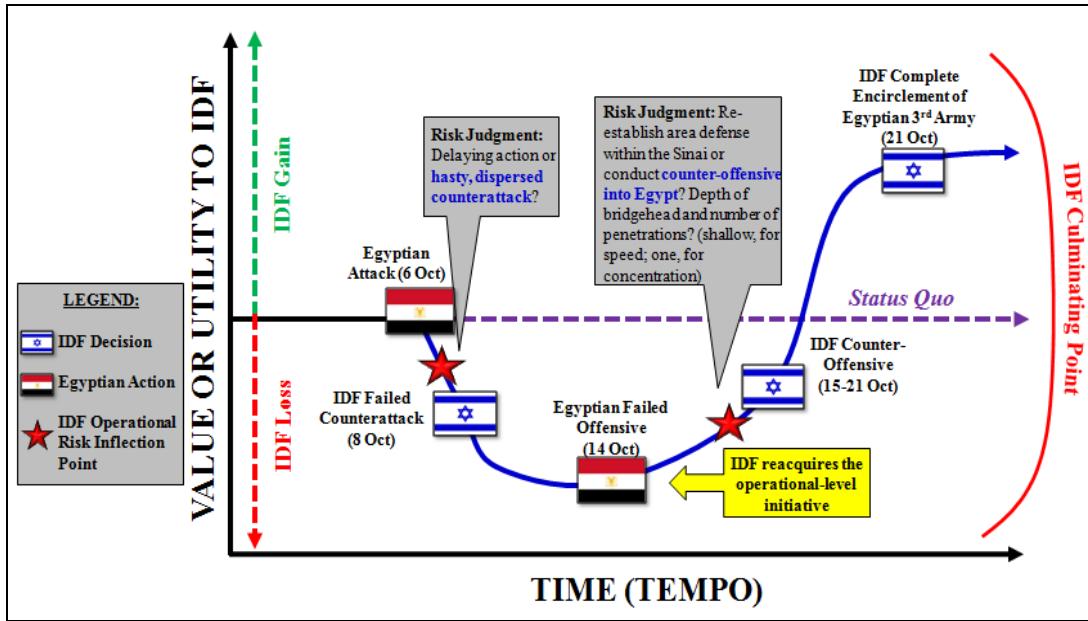


Figure 9. The IDF and Operational Risk Taking in the Sinai

Source: Created by author.

While the decision to conduct a hasty counterattack on 8 October resulted in failure, increasing the uncertainty and risk confronting the IDF and reducing the options available to them, the decision to conduct an operational counter-offensive into Egypt on 15 October had the opposite effects and succeeded in spite of enormous potential for loss, given the IDF's striking quantitative inferiority. The differences between these two choices and their subsequent effects illuminate the dynamics of operational risk. In the first instance, the IDF's fluid, decentralized command system had been corrupted; the marked distrust between Gonen and Sharon was only exacerbated by Elazar's decision to influence the specifics of the counterattack from the strategic level. Additionally, the IDF's tactics during this counterattack were arguably its worst of the entire war: its attack formations were comprised almost entirely of armor elements; there was insufficient

supporting field artillery; the air force was used as flying artillery instead of for interdiction strikes; and dispersed attacks were employed (rather than concentration). By the time of the ultimately successful counter-offensive on 15 October, the IDF had adapted well, largely restoring improved combined-arms methods as well as its vaunted decentralized, fluid command system. The failure of the first risk judgment and the success of the second suggest a model for operational risk with potential utility for the U.S. Army, which was then confronting a similar military problem on the plains and mountain passes of Central Europe.

Conclusion

Prior to the 1973 War, the IDF failed to fully appreciate the lessons from the Six-Day War. Its tactical approach had become distorted, disproportionately favoring armor at the expense of integrating the other arms. Moreover, its intellectual preparation and organizational planning were deficient, especially at the operational level of war. Nevertheless, they managed to overcome considerable odds during the conflict's first two days and prevail militarily.

Although, in retrospect, the IDF's actions over the final two weeks of the war may look inevitable, much uncertainty and risk still confronted the IDF's tactical and operational commanders throughout the fighting, even after the initiative had swung in its favor. In the war's opening stages, the Egyptian and Syrian Armies executed detailed, well-rehearsed plans, while the IDF fought through a fog made thicker as a result of its overconfidence and failure to correctly interpret and respond to readily available intelligence. Yet, the IDF succeeded in blunting the initial onslaughts and ultimately carried the fight into the territories of both adversaries. On both fronts, military logic

seemed to recommend a lower-risk approach, one in which the IDF should have committed mobilizing elements to a less mobile defense in depth, but this was not the option its leadership pursued.

On what model was this approach then based? The answer lies in the IDF's relentless pursuit of qualitative superiority (in peace) and the initiative (in war). Elazar attributed the IDF's qualitative advantages to three factors: (1) the will of the soldiers to fight; (2) the "level of the people," to include their sense of national identity and level of cultural and technological sophistication; and (3) the "efficiency, organization, specialization, discipline, and ability of its junior and senior officers to command."¹⁷⁴ Expanding on these observations (see figure 10), the IDF established a foundation for its approach to risk built on extraordinary tactical proficiency, one dependent, as the 1973 War demonstrated, on combined-arms integration and cooperation. On top of this tactical excellence, the IDF based their approach to battle on: (1) a maneuver-oriented doctrine with a bias for the offense; (2) a decentralized and fluid command and control system; (3) the selection and cultivation of leaders with the willingness and ability to dare, improvise, maintain the higher commander's intent, and to be resourceful; and (4) an appreciation of technology as a powerful tool in the hands of a human decision maker (vice a panacea for the challenges of modern war).

¹⁷⁴ Lieutenant General David Elazar, "The Yom Kippur War: Military Lessons," in Williams, 247.

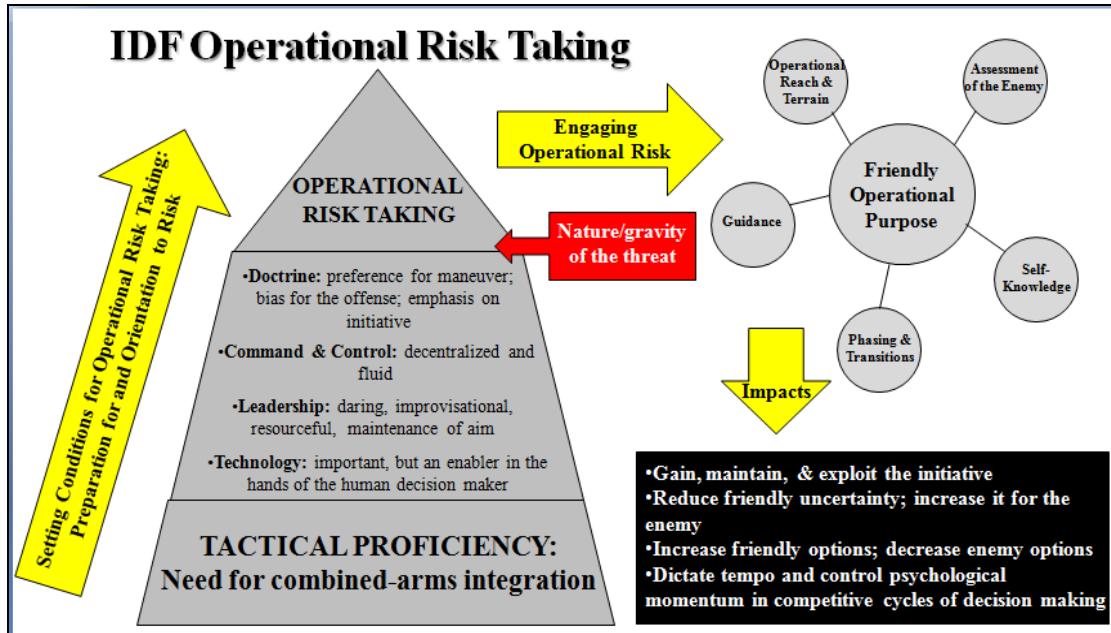


Figure 10. Model of IDF Operational Risk Taking

Source: Created by author.

The IDF then engaged uncertainty through a consistent effort to relate its operational purpose to the higher command's guidance, knowledge of its own forces and those of the enemy, the phasing and transitions of the fighting, and operational reach. Unlike its Syrian and Egyptian adversaries, the IDF never lost sight of its operational aims. Over the course of the fighting, these aims informed the iterative guidance that flowed down the chain of command as well as the operational reach and phasing of its dynamic plans. Furthermore, to accomplish these aims the IDF deepened its understanding of Egyptian and Syrian capabilities and dispositions and took serious stock of their own organization, tactics, and command structure, making adaptations to increase its effectiveness.

The combined effect of this foundation and approach to risk was the ruthless pursuit of the initiative. After the war, Elazar highlighted the importance of gaining, maintaining, and exploiting the initiative: “In order to win, one must attack, and the sooner the better . . . Not all our counterattacks were successful . . . All the counterattacks, however, did achieve their strategic aims of stopping the enemy’s offensive initiative, and of dictating conditions favorable to the IDF for continued fighting.”¹⁷⁵ This aggressiveness also highlights the high stakes of the fighting. Not only did the IDF’s doctrine and views on combat leadership underpin its relationship with and thinking about uncertainty and risk, but the existential threat posed by the rapidity and mass of the Arabs’ gains in the opening days of the fighting made the IDF more tolerant of potential losses in going after potential gains. In pursuit of the initiative, the IDF made a series of choices that increased its options, reduced the uncertainty with which it was confronted, all while imposing the opposite effects upon its enemies. Confronted with increasingly less uncertainty and more options than their enemies, the IDF was able to dictate the tempo and control the momentum of the fighting.

The IDF understood the psychological value of such momentum: to impose its will on the course of the battle in an effort to shatter the enemy’s coherence and will to resist. More simply, the IDF had pierced its adversaries’ decision cycles. Both sides demonstrated remarkable resiliency, but the IDF’s tactical superiority; decentralized, fluid system of command; maneuverist, offensively-oriented doctrine; exceptional combat leadership; and use of technology as an enabler allowed it to orient on uncertainty

¹⁷⁵ Elazar, 250.

as a protagonist in the battle and risk as the opportunity for gain (versus potential for loss). With this approach, the IDF reversed the momentum of the fighting and achieved military victories along both fronts.

CHAPTER 4

INTERPRETATION AND DOCTRINAL INTEGRATION, 1973-1976: DEEPENING THE FOCUS AND CRUSHING OUT UNCERTAINTY

Tanks and other combat elements which expose themselves during offensive action will suffer unacceptable losses unless their vulnerability can be decreased through improved tactics and techniques of movement . . . I believe that this is the single most important lesson on the Arab-Israeli War.

— General William E. Depuy, “Implications of the Middle East War on U.S. Army Tactics, Doctrine, and Systems”

We are faced with the problem you describe: how to win decisively and quickly though outnumbered. My answer is to defeat the cheap part of communism—his manpower—with the cheap part of the free world—our munitions. I intend to obliterate him before he can close with the friendly front line elements.

— Lieutenant General James F. Hollingsworth,
Letter to Maj Gen Donn A. Starry

Introduction

In chapter 3, this study argued that the question of risk is central to a commander’s ability to make judgments and decisions under conditions of uncertainty. The IDF believed that uncertainty and risk were unavoidable in war. It therefore prepared for the effects of uncertainty upon its objectives through training, education, and planning so its commanders would be ready to dynamically respond to these effects in combat. The dilemma that commanders, especially those at the operational level, must confront in their decision-making consists of waiting to make a decision until one has a nearly complete information or making the best possible judgment with the information available. However, such delays in decision-making may result in yielding the initiative

to the adversary. This is particularly true in armies that are institutionally risk averse, i.e., those that view risk as the potential for loss.

The purpose of this chapter is to analyze the initial tranche of lessons with respect to operational risk that the U.S. Army drew from its study of the 1973 Arab-Israeli War and how it integrated those lessons into its doctrine. This chapter begins with an analysis of the U.S. Army's approach to operational risk in the early 1970s as made evident through its behavior during the Vietnam War. This approach represents the Army's starting point with respect to risk for the ensuing period of change and reformation; it was also the mindset through which its leadership would interpret the IDF and its performance during the 1973 War. Next, this chapter examines the lessons that the U.S. Army captured with respect to the conceptualization of, preparation for, and engagement of operational risk in the three years following the 1973 War. Finally, it explores how these lessons were subsequently integrated into the service's dramatically revised capstone doctrine.

During General William E. DePuy's tenure as the commanding general of the new TRADOC, the U.S. Army used the 1973 Arab-Israeli War to catalyze critical reforms in training, tactics, and equipment modernization. DePuy and a small group of key officers spent almost three years framing the evolving military problem which they believed the U.S. Army confronted then. Next, they developed an accompanying narrative to communicate its relevance and urgency to the broader force. They then designed and articulated what they believed to be the solution, Active Defense, in a dramatically revised edition of the Army's capstone doctrine. Finally, they laid the groundwork for implementing this doctrine through training reforms centered on tools,

simulations, and highly realistic exercises designed to measure proficiency and ensure compliance. The lethality, intensity, and density of the modern battlefield represented an enormous problem for which DePuy and his lieutenants did not believe the U.S. Army of the period was adequately prepared. Thus, risk aversion consistently characterized their approach over this period. They sought to train and equip the Army to survive on the modern battlefield: to fight effectively enough to prevent a rapid, decisive Soviet victory.

The Starting Point: The U.S. Army and (Operational) Risk in Vietnam

The American Army that fought the Vietnam War did so in an environment shaped by unprecedeted access to information and communication technologies. A deluge of information was suddenly available to drive commanders' thinking and decision-making. However, the abundance of information and the increasingly complex organizations created to manage this information often contributed to greater uncertainty rather than helping to reduce it. Historian Martin van Creveld argues that a "pathology for information" arose within the U.S. Army: "Designed to produce accuracy and certainty, the pressure exercised from the top for more and more quantitative information ended up producing inaccuracy and uncertainty." Van Creveld insists that advanced communications and data-processing technologies are vital to the prosecution of modern war, but warns that leaders and organizations must tailor their command system and decision-making methodologies to retain sufficient agility and adaptability.¹⁷⁶

¹⁷⁶ van Creveld, 259.

The greater availability and quantities of information as well as the means by which to communicate it more rapidly contributed to a shift in the military's thinking about leadership, broadly, and command, more specifically. Political scientist Antoine Bousquet asserts that the U.S. Army transitioned from an institution based upon command to one now reliant upon command and control. He identifies a consistent trend in which the U.S. Army sought to integrate "forces into a coherent system maintained by information and communication technologies amenable to centralized control."¹⁷⁷

However, it was not just information collection and communication technologies that impacted the U.S. Army's relationship with risk; it was also how leaders used that information. The historiography of this period frequently targets the deleterious influence of operations research and system analysis within the Department of Defense.¹⁷⁸ Introduced into the military by then-Secretary of Defense Robert McNamara in the early 1960s, this quantitative approach sought to reduce war to "a set of mathematical functions and cost-benefit calculations susceptible to optimization through [its techniques]."¹⁷⁹ This managerial, analytic methodology for decision-making significantly influenced how the Army conceptualized, prepared for, and responded to risk. Techniques such as operations research and systems analysis seemed to promise that commanders could eliminate, or at least dramatically reduce, the uncertainty and complexity inherent to war.

¹⁷⁷ Bousquet, 128-130.

¹⁷⁸ See for example, Andrew F. Krepinevich, Jr. *The Army and Vietnam* (Baltimore, MD: The Johns Hopkins University Press, 1986), 34-35.

¹⁷⁹ Ibid., 123, 137-154.

John Keegan famously warned about how these shifts in the characteristics of war seemed to be blinding military leaders from war's true nature in which "uncertainty and doubt, misinformation and misapprehension" had been and would always be present.¹⁸⁰ He observed that this trend was not unique to the Army of the Vietnam era; for centuries, Western armies had sought, through training and education, "to reduce the conduct of war to a set of rules and a system of procedures—and thereby to make orderly and rational what is essentially chaotic and instinctive."¹⁸¹ Yet, the integration of these technological tools and quantitative analytic techniques into the U.S. Army only served to accelerate and intensify the illusion that one could manage, calculate, or probabilistically determine risk; and, in so doing, caused the service to orient on risk as the potential for loss.

The U.S. Army's capstone doctrine, FM 100-5 (*Operations of Army Forces in the Field*), during the final years of the Vietnam War painted a muddled picture with respect to risk. In the discussion of the principle of security in chapter 5, the manual asserted that "since risk is inherent in war, application of the principle of security does not imply undue caution and the avoidance of calculated risk. Security frequently is enhanced by bold seizure and retention of the initiative, which reduces the enemy's capability to interfere."¹⁸² Later in this same chapter, the doctrine addressed risk more specifically and

¹⁸⁰ John Keegan, *The Face of Battle* (New York: The Viking Press, 1976), 303.

¹⁸¹ Ibid., 18.

¹⁸² Headquarters, Department of the Army (HQDA), Field Manual (FM) 100-5, *Operations of Army Forces in the Field* (Washington, DC: Government Printing Office, 1968), 5-2.

distinguished it from vulnerability, the latter of which it defined as “susceptibility of a force to damage by enemy action.” The manual reiterated that risk is inherent to war, and emphasized that “risk is also related to gain; normally, greater gains involve great risk.” However, the doctrine advised commanders to carefully evaluate each course of action through the lenses of relative risk and vulnerability, revisiting the plan if they found the risk to be unacceptable. Furthermore, commanders “must recognize risks to be assumed by subordinate commanders in accomplishing their missions.”¹⁸³

Therefore, although the Army’s doctrine acknowledged that risk was inherent to war, associated with both potential losses and gains, and must be accepted to gain, maintain, and exploit the initiative, it also insisted that commanders needed to carefully comprehend, evaluate, and calculate risk at their own echelon and at those of their subordinates. This doctrinal ambiguity compounded the influences of new information technologies as well as quantitative data-analysis techniques, hardening an already risk-averse culture in the U.S. Army.

There were several other factors that strengthened institutional risk aversion within the U.S. Army of the early 1970s. First, the media’s increased access to and thus ability to report on the stark realities of combat created yet another check on the willingness of commanders to embrace uncertainty and take risks, especially for the limited-objective, lower-intensity conflicts into which the United States increasingly found itself being drawn into the period after World War II. A RAND study examining the influence of casualties on public opinion and presidential policy in Vietnam

¹⁸³ HQDA, FM 100-5 (1968), 5-7.

concluded that “casualties to U.S. personnel are the most visible and least tolerable cost of direct U.S. combat involvement in sustained limited wars. Mounting casualties tend to undermine public support and serve as a lightning rod for public dissatisfaction with other issues.”¹⁸⁴ Second, senior commanders had serious concerns about what they considered to be uneven, unreliable leadership at the lower echelons. For example, General Paul Gorman, recounting his experience as an infantry brigade commander in Vietnam, discussed the challenges the lack of junior leadership imposed on his command:

[Most of the leaders in] the usual company came in the Army in the same year: the draftees, the shake-and-bake NCOs that were pulled out of the training centers, given a get-rich-quick course and a sergeant’s stripe. They were sent straight into the jungle; the lieutenants out of the ROTC or OCS . . . They were all the same age and were in the same class of ignorance . . . If you come in as a replacement, you copy the guys that got there before you. Standards deteriorate. Regression sets in.¹⁸⁵

Finally, the Army’s senior leaders were also concerned with the effects of rising indiscipline, poor morale, and lack of unit cohesion. The most extreme indications of this trend included sharp rises in “fragging,” attacks on officers by disgruntled and disillusioned enlisted draftees (more than 2,000 incidents reports in the 1970s), as well as seemingly rampant drug abuse (in 1970, Military Assistance Command-Vietnam, estimated that 65,000 American servicemen were using drugs).¹⁸⁶

¹⁸⁴ Mark Lorell, Charles Kelley, Jr., and Deborah Hensler, *Casualties, Public Opinion, and Presidential Policy During Vietnam* (Santa Monica, CA: The RAND Corporation, 1985), vi.

¹⁸⁵ Gorman, 54.

¹⁸⁶ George C. Herring, *America’s Longest War: The United States and Vietnam, 1950-1975* (New York, NY: Random House, 1986), 243.

Moreover, the U.S. Army of the Vietnam era did not yet explicitly think in terms of the operational level of war in its doctrine, complicating any effort to conceptualize and prepare for risk at this echelon. Despite this, scholars recognize the operational level's conceptual presence in the U.S. Army's approach to warfighting during this period. For instance, historian Robert Citino argues that the United States demonstrated proficiency in operational art in Vietnam, when given an opportunity to engage in conventional (versus counterinsurgent) fighting and to leverage its considerable advantages in firepower.¹⁸⁷ However, it was this tendency to default to superior firepower that served to further exacerbate the Army's cultural risk aversion. The ability to kill the enemy without having to engage its elements from close quarters with friendly maneuver forces reduced the potential for loss to the line infantry and armor formations. The willingness and ability to bring America's superiority in technology and firepower to bear against the enemy married with the statistical-minded analytical approach of senior headquarters ultimately helped to corrupt the U.S. strategy in Vietnam.¹⁸⁸

Antoine Bousquet argues that Vietnam demonstrated that the U.S. Army's "cybernetic" approach to warfare distorted the relationship that planners and commanders once had with uncertainty and unpredictability; they mistakenly believed that these challenges could now be "overcome through the deployment of the proper information and communication technologies and elaboration of appropriate models of conflict."¹⁸⁹

¹⁸⁷ Citino, 237-254.

¹⁸⁸ Krepinevich, 196-205.

¹⁸⁹ Bousquet, 161.

As the Army was drawing down in Vietnam, conflict between Israel and its Arab adversaries again erupted in the Middle East, riveting the world's attention, especially for those leaders in the U.S. Army charged with its post-Vietnam reform. This conflict vividly illuminated the challenges of the modern, mid-intensity battlefield, including the role of risk and the importance of operational art. It is to the first tranche of lessons that the U.S. Army extracted from the 1973 Arab-Israeli War that this study now turns its attention.

Interpretation: Framing the Problem and Developing the Narrative

The drama, tempo, and violence of the 1973 War created an insatiable appetite for intensive studies across the U.S. Department of Defense and, more specifically, the Army. Two of these study teams, the most formal and comprehensive of the diverse group, published and widely disseminated multi-volume reports in the latter half of 1974. The first was the Department of the Army-directed SRSG, which the CSA, General Creighton Abrams, tasked TRADOC to conduct. This team was led by Brigadier General Morris Brady and included participation from and collaboration with the CAC, the U.S. Army Logistics Center, as well as many of TRADOC's subordinate schools and centers. The SRSG's mission was to:

Evaluate combat data from the Arab-Israeli War to determine the lessons learned as they effect U.S. tactics, techniques, organization, training, equipment effectiveness and vulnerability, and weapons system acquisition. Disseminate the tactical and technical results of the evaluation to the schools, combat developers, and materiel developers for action.¹⁹⁰

¹⁹⁰ Special Readiness Study Group, "Analysis of Combat Data-1973 Mideast War," Volumes 1-8 (Fort Leavenworth, KS: U.S. Army Combined Arms Center, July 1974), (Secret-Information used is Unclassified), The 1973 Arab-Israeli War Collection, U.S. Army Training and Doctrine Command Military History and Heritage Office

The second study team, the Weapons Systems Evaluation Group, was formed in response to a directive from the Office of the Secretary of Defense and was led by U.S. Air Force Major General Frederick Blesse. Its mission, much like that of the SRSG, focused on data collection and quantitative analysis to learn the lessons of the 1973 War: “Systematically collect, organize, and promulgate data having to do with details of the interactions between opposing weapons and weapon systems utilized [during the war].”¹⁹¹ These studies focused primarily on observations and lessons learned from the Israeli perspective. However, in response to an invitation from Egyptian Minister of War, Field Marshal Hafiz Ismail Ali, the Department of Defense also organized and sent a joint, interagency team to Egypt in July 1974 from which the United States was able to gain a deeper appreciation of the conflict from the Egyptian perspective.¹⁹²

Additionally, over the first half of 1974, several less formal, but high-visibility study teams traveled to Israel to gather potential lessons. The first was led by Colonel Prillaman of the U.S. Army’s Armor School.¹⁹³ General Abrams also directed two other

Historical Documents Collection, Fort Eustis, VA, Boxes 1-2. Hereafter referred to as 1973 War Collection.

¹⁹¹ Weapons Systems Evaluation Group, “WESG Report 237-Data from the October 1973 Middle East War,” Volumes I-VII (Arlington, VA: WESG, 1974-1975), (Secret-Information used is Unclassified), 1973 War, Boxes 2-4, TMHO HDC.

¹⁹² Lieutenant General John J. Hennessey, “The United States Military Visit to Egypt, 14-23 July 1974,” 31 July 1974, Lieutenant General Orwin C. Talbott Papers, The U.S. Army Heritage and Education Center, Carlisle Barracks, PA, Box 2, Folder 1. Hereafter referred to as Talbott Papers. The team, led by Hennessey, then commanding general of the U.S. Fifth Army, was designed to ensure representation from all four services as well as the Joint Staff, Defense Intelligence Agency, and the Office of the Secretary of Defense.

¹⁹³ In addition to Prillaman’s visit and those discussed in this thesis, there were numerous other visits and study teams of varying levels of formality and scope, including

senior-leader visits and reviews. The first of these was led by TRADOC's Deputy Commanding General, Lieutenant General Gen Orwin Talbott, which Brady's SRSG supported during his visit in January.¹⁹⁴ In April, Abrams also directed the Commandant of the Armor School, Major General Donn Starry, and the Project Manager for the XM1 tank, Major General Robert Baer, to Israel.¹⁹⁵

The U.S. Army's pathology for information was immediately evident in the methodologies of the two formal study teams that the Department of Defense assembled and rushed to the Middle East. In fact, Major General Avraham Adan, whose 162nd Reserve Armored Division had played a critical role in the encirclement of Egypt's Third Army during the 1973 War and was, by late 1974, assigned as the IDF's military attaché at the Pentagon, observed, "The American army had dozens of officers engaged in learning lessons of the Yom Kippur War. Tens of thick volumes were produced: tactics, organizational structure, changes required in weapons arsenals . . . With the Americans, there is a scientific process of data collection"¹⁹⁶ The SRSG and Weapons Systems

separate teams sent by the U.S. Air Force and Marine Corps as well as a visit by S.L.A. Marshall. See Robert T. Davis, II, *The Challenge of Adaptation: The U.S. Army in the Aftermath of Conflict, 1953-2000* (Fort Leavenworth, KS: Combat Studies Institute, 2008), 54.

¹⁹⁴ Talbott's Papers do not contain a full version of his trip report; however, they do include a transcript of the briefing he gave based on this report. See Lieutenant General Orwin Talbott, "1973 Mideast War Briefing," 1974, Talbott Papers, Box 1.

¹⁹⁵ Major General Donn A. Starry, "October 1973 Mideast War," 12 May 1975, General Donn A. Starry Papers, The U.S. Army Heritage and Education Center, Carlisle Barracks, PA, Box 59, Folder 3. Hereafter referred to as Starry Papers.

¹⁹⁶ Major General Avraham Adam, *On the Banks of the Suez* (Novato, CA: Presidio Press, 1980), 466.

Evaluation Group teams aggressively pursued the collection of as much data as possible and subsequently conducted rigorous quantitative analysis to generate their specific recommendations.

Mostly obscured by this institutional emphasis upon quantitative analysis were the more qualitative lessons concerning the war's human factors; command, control, and planning at the operational and strategic levels; and the role that risk-taking played in the conflict. However, there is evidence that the war's qualitative lessons did not go completely unnoticed. Abrams afforded both Starry and Talbott the freedom to pursue a more qualitative approach. Prior to their departures, he provided similar, broad guidance. From Talbott, he asked for "the truth, to sort out fact from fancy, to talk to airmen, soldiers, headquarters and battalions and to find out what really happened."¹⁹⁷ In addition to directing Starry to confirm that the requirements for the XM1 tank were correct, Abrams also asked him to find out "what the Chief of Staff of the Army needs to know about the Yom Kippur War."¹⁹⁸

Rather than accumulating and processing data, both men spent more time in Israel talking to IDF commanders and walking the terrain on which the key battles had been fought. Both men came away from the war struck by the density, lethality, and intensity of the fighting; moreover, both also developed an appreciation for the conflict's less tangible qualities. In June 1974, just prior to the publication of the Weapons Systems

¹⁹⁷ Talbott, "1973 Mideast War Briefing," 1.

¹⁹⁸ Donn A. Starry, "Battlefield Development Plan" (Transcript of speech given to the British Army Convention, Washington, DC, 24 September 1980); reproduced in Sorley, vol. 1, 221.

Evaluation Group's report, Colonel Bruce Williams, the senior Army representative on that study team, sent a letter to Talbott in which he attempted to provide what he saw as the war's more qualitative lessons (based on what he called a "gut feeling").¹⁹⁹ He provided insights that transcended the data researchers were working so feverishly to collect. In addition to emphasizing the fighting's seemingly unprecedented intensity, he identified two other overarching lessons. One was that the conflict resembled a "street fight," but one during which neither side "had a good grasp of what the actual situation was and the higher the echelon of command the more obscured the real situation." Combining these two lessons, Williams argued that the most important take-away was the value of well-trained leaders, given a chance to learn and make mistakes in order to more effectively prepare them for the uncertainty and intensity of modern combat.²⁰⁰

Talbott believed that Williams' insights were so significant and resonant with his own observations that he forwarded the letter and its enclosed reports (many of which included data-driven analysis) directly to DePuy. In a curt response, DePuy expressed concern about "the lack of statistical data."²⁰¹ DePuy's response was indicative of where his focus for the Army's reform and modernization laid; he sought hard data and the ability to take concrete actions, especially those which related to tactics, training, and equipment.

¹⁹⁹ Colonel Bruce Williams, letter to Lieutenant General Talbott, 24 June 1974, Talbott Papers, Box 1, Folder A.

²⁰⁰ Colonel Bruce Williams, letter to Lieutenant General Talbott, 24 June 1974, Talbott Papers, Box 1, Folder A.

²⁰¹ General William E. DePuy, letter to Lieutenant General Talbott, July 1974, Talbott Papers, Box 1, Folder A.

Of the SRSG report’s 162 recommendations, 139 related directly to these three subject areas, unsurprising given the study group’s objectives and mission. The balance were recommendations for organizational and personnel-policy reforms. Interestingly, the only recommendation that fell outside of these categories was one to “introduce situational ‘no solution’ tactical problems into all basic and advanced courses to encourage the full range of officer resourcefulness, innovation, and flexibility”—exactly the characteristics that the IDF sought and cultivated into its officer corps to prepare them for the uncertainty and risk inherent to the modern battlefield.²⁰²

Following the publication of the SRSG’s report in July 1974, TRADOC spent the next two years deliberately planning and executing actions in response to the recommendations before finally declaring victory in July 1976.²⁰³ TRADOC’s treatment of the more discrete tactical and technical recommendations was impressive. For example, the command and its subordinate schools, centers, and combat-development teams made enormous progress on the refinement and implementation of the

²⁰² U.S. Training and Doctrine Command, “Status of Recommended Actions from Analysis of Combat Data-1973 Mideast War,” briefing slides, 1973 War Collection, Oversize Box 2.

²⁰³ TRADOC conducted its initial assessment of the SRSG’s recommendations on 16 August 1974, a follow-up in-progress review in January 1975, and a final assessment of their actions in response to the recommendations in July 1976. After each review, TRADOC disseminated the slides widely throughout the command, to U.S. Forces Command, Army Service Component Commands, the Department of the Army Headquarters, and the sister services. See Lieutenant Colonel W. L. Hinspeter, “Analysis of Combat Data-1973 Mideast War,” Memorandum for Record, 28 August 1974; Lieutenant Colonel W. L. Hinspeter, “TRADOC Application of 1973 Mideast War Lessons Learned,” Memorandum for Record, 23 January 1975; Captain R. C. Tyler, “TRADOC Application of 1973 Mideast War Lessons Learned,” Memorandum for Record, 15 July 1976, 1973 War Collection, Oversize Boxes 1-2.

recommendations pertaining to the improvement of the main battle tank. On the other hand, TRADOC treated the recommendations relating to the challenges of fighting effectively in a fluid, uncertain, and unpredictable combat environment much less vigorously. For instance, of TRADOC's numerous schools, the only two to take action and implement the recommendation for integrating no-solution tactical problems within their officer courses were Starry's Armor School and the Quartermaster School.²⁰⁴

Later that month, General DePuy made his first visit to Israel, reciprocating the Israeli visit to TRADOC in January 1976, which had culminated in a U.S.-IDF Armor Symposium held at Fort Knox, Kentucky. Over the course of ten days, DePuy and his staff visited with senior IDF officers from both the army and air force, toured the major combat- and combined-arms schools and centers, observed IDF training exercises, and walked the terrain of the Golan Heights. Additionally, DePuy briefed the IDF leadership on the U.S. Army's recently revised and published capstone doctrine. He came away from the trip enormously impressed with the IDF's battle-won confidence in the qualitative superiority of its military. The report linked this confidence and demonstrable capability primarily to the ways in which the IDF assessed, selected, and developed its leaders as well as the realism and rigor of its training.²⁰⁵ In addition to writing and disseminating his own thick trip report, DePuy briefed his findings and follow-on

²⁰⁴ See U.S. Training and Doctrine Command, "Status of Recommended Actions from Analysis of Combat Data-1973 Mideast War," 1973 War Collection. Actions in response to the recommendations for improving the M60 tank are on slides 1-4; actions in response to the no-solution tactical problem recommendation are on slide 54.

²⁰⁵ Headquarters, U.S. Army Training and Doctrine Command, "Israel Observations: Trip Report of Visit to Israel, 26 July to 6 August 1976," undated, 1973 War Collection, Oversize Box 6.

guidance to key staff and subordinate commanders immediately following his return. In particular, DePuy wanted to acquire, translate, and disseminate the IDF's training manuals.²⁰⁶ This trip also inspired a flurry of additional visits from TRADOC's school and center commanders interested in more branch-specific insights within the context of the broader combined-arms approach that DePuy was advocating.²⁰⁷ DePuy's visit and the further study that it inspired only served to intensify and deepen the Army's already keen interest in improving their own tactics and training and modernizing their key weapon systems.

From 1974 to 1976, DePuy formed a tight collaborative relationship with his Deputy Chief of Staff for Training, Major General Paul Gorman, and the Commandant of the Armor Center, Major General Donn Starry. They worked to solidify their understanding of what they considered to be the key military problem confronting the Army and what must be done to tackle it. They devoted their thinking to how to

²⁰⁶ General William E. DePuy, "Israeli Debrief," transcript of brief to senior staff and commanders at TRADOC Headquarters, Fort Monroe, VA on 16 August 1976; Major General Robert C. Hixon, TRADOC Chief of Staff, "Confirmation of Israeli Debrief Tasks," Memorandum for Record, 10 September 1976, 1973 War Collection, Oversize Box 8.

²⁰⁷ In the months following DePuy's return, the commanders of (or senior officers representing them) the Armor, Infantry, and Engineer Centers as well as the U.S. Army Operational Test and Evaluation Agency made trips to Israel to engage the IDF's officers, observe training, and walk the battlefields of the 1973 Arab-Israeli War. Their emphasis continued to be on training, tactics, and equipment modernization. See for example, Major General James A. Johnson, Commandant, U.S. Army Engineer School, "Trip Report to Israel, 6-14 December 1976" (Confidential-Information used is Unclassified); Major General Willard Lathan, Commandant, U.S. Army Infantry School, "Trip Report by the Commandant, U.S. Army Infantry School, 6-13 December 1976" (Confidential-Information used is Unclassified), 1973 War Collection, Oversize Box 8.

overcome what Starry would later call the intensity-density-lethality equation²⁰⁸ and prioritized the lessons from the 1973 War to which they allocated their attention and resources accordingly. The 1973 War vividly illuminated the lethality of the new weapons, but the Syrians and Egyptians had employed a caricature of Soviet doctrine. The concept of an equation was thus central to the thinking of DePuy, Starry, and Gorman. The Army had to solve the riddle posed by a Red Army employing lethal modern weapons and an evolving doctrine of mass, momentum, and continuous operations.²⁰⁹ The emphasis on an equation, implying the use of formulas and probabilities, reveals a great deal about how the U.S. Army then thought about risk. Namely, risk then represented the potential for loss, especially considering the Army's assessed lack of readiness for a future war with the Warsaw Pact.

²⁰⁸ General Donn Starry, “Desert Storm Lessons Learned” (interview conducted by Lieutenant Colonel Douglas Johnson, Colonel Thomas Sweeney, and Colonel Douglas Craft, 18 September 1991), in Sorley, vol. 2, 1226.

²⁰⁹ The study of evolving Soviet doctrine was a considerable point of emphasis in TRADOC over this period. For instance, in November 1973, Major General George Keegan, Jr., the Department of the Air Force’s assistant chief of staff for intelligence provided DePuy and his staff with the first volume (on “The Offensive”) in a new translation series of significant and representative Soviet military writings; see Keegan, letter (with enclosure) to DePuy, 13 November 1973, General William E. DePuy Papers, The U.S. Army Heritage and Education Center, Carlisle Barracks, PA, Box 5, Folder K. Hereafter referred to as DePuy Papers, Moreover, the U.S. Army was also investigating the question of what lessons the Soviets would draw from the 1973 War and how these would affect its doctrine and weapons development. See for example, Andrus Viilu, *An Assessment of the Impact of the October 1973 War on Soviet Doctrine, Tactics, and Materiel*, Volume I: Executive Summary (Washington, DC: General Research Corporation, July 1975) (Secret–Information used is Unclassified). A copy of this report was furnished through TRADOC Deputy Chief of Staff for Combat Developments to DePuy on 22 September 1975, 1973 War Collection, Box 7.

An examination of DePuy's executive communications with respect to the lessons of the 1973 War, including three letters to the CSA over two and half years, reveals a striking continuity of thought. He wrote the first letter following the return of Colonel Prillaman's team in January 1974; the second immediately after the publication of the SRSG report in July 1974; and the third following his own visit to Israel in the late summer of 1976.²¹⁰ DePuy was clear, direct, and consistent in his thinking; all of these documents emphasized the need to reform training, tactics, and materiel capabilities through the modernization of the Army's doctrine and equipment. DePuy was a critical thinker deeply committed to improving the capabilities of the post-Vietnam Army. Yet his own experiences as a combat commander during World War II and the Vietnam War profoundly influenced his approach to framing and solving the problem confronting the Army. From those experiences, he concluded that well trained, mission-focused soldiers and leaders, expertly employing the right tactics and best equipment, could achieve their objectives and minimize their casualties.²¹¹ DePuy demonstrated a preference for highly synchronized command and control and for gaining and maintaining fire superiority—characteristics to mitigate the potential for loss, i.e., the way in which he would likely have interpreted risk.

²¹⁰ See General William E. DePuy, letter to General Creighton Abrams, 14 January 1974, Talbott Papers, Box 1; DePuy, letter to General Abrams, 31 July 1974, 1973 War Collection, Oversize Box 1, (Confidential-Information used is Unclassified); DePuy, letter to General Fred Weyand, 18 August 1976, 1973 War Collection, Box 8; DePuy, "Implications of the Middle East War on U.S. Army Tactics, Doctrine, and Systems," February 1975, DePuy Papers, Box 4, USAHEC.

²¹¹ Herbert, 11-24; Henry G. Gole, *General William E. DePuy: Preparing the Army for Modern War* (Lexington: University Press of Kentucky, 2008), 13-66, 143-212.

The 1973 War helped to illuminate the military problem the Army was trying to solve: conducting a “forward defense on a high-technology battlefield by an outnumbered force.”²¹² It also served as a powerful rhetorical device for advancing the Army’s interests with both Congress and the infantry-dominated Army leadership (in both the operational and institutional forces).²¹³ The military was not alone in pursuing lessons from the 1973 War; late that same year, the House Armed Services Committee sent a special subcommittee to the Middle East to extract its own lessons, many of which had the potential to compete with the modernization agenda that the Army was attempting to articulate and execute.²¹⁴ Therefore, concurrent with the extraction of the 1973 War’s technical, tactical, and materiel lessons was an effort to develop and articulate a compelling narrative to provide the sense of urgency needed to drive the necessary changes. In July 1974, Starry sent DePuy a back-channel message in which he made the

²¹² Swain, “Introduction,” in *The Selected Papers of General William E. DePuy*, x.

²¹³ Bronfeld, 465-498.

²¹⁴ Samuel S. Stratton, *Report of the Special Subcommittee on the Middle East* (Washington, DC: Government Printing Office, 13 December 1973). An unclassified version of the report was published in *Armed Forces Journal* in January 1974. The journal’s editors called the subcommittee’s work perhaps “the most valuable military report ever produced by a Congressional committee” and that it “produced information that will be of great use in dealing with American military posture;” see Samuel S. Stratton and John Ford, “The Middle East War,” *Armed Forces Journal* 111, no. 35 (January 1974): 33-38. At play was the question of how and to what extent to modernize the military’s strategic (nuclear) and conventional arsenals given that what the “Soviets gave the Arabs was not sophistication, but proliferation. It was the vast numbers of weapons provided the Arabs rather than any exceptional technical capability that took the toll.”

following observation with respect to many of the doctrinal and training changes that TRADOC was attempting to drive:

There's no groundswell against us, at least not one I can detect. But there's a lot of opposition. So simplicity, fat manuals, better gunnery, etc. will not suffice as rationale for what we're doing. We have to have a groundswell for us, and my guess is we haven't much time to get it swollen . . . While I believe that what we're about needed to be done anyway, it is nonetheless convenient for a number of reasons to tie it at least loosely to the October War.²¹⁵

In this message, Starry also provided DePuy with the draft of a paper on which he had been working. In this draft paper, Starry used the 1973 War to highlight critical lessons and inspire the urgency required to address them. Starry's point is clear: "The U.S. Army must learn how to fight outnumbered and win." This language was the product of an iterative dialogue between Starry and Gorman over the preceding six months. This discussion revolved around Gorman's seminal paper, "How to Win Outnumbered," which he wrote while helping DePuy prepare his January 1974 response to General Abrams on the Army's initial lessons from the 1973 War.²¹⁶

However, to understand how the Army thought about and oriented towards risk during this period, one needs to understand what it meant by winning. In correspondence with the Director of the British Royal Armored Corps, Major General J.G.R. Allen, Starry wrote:

We spent an overlong part of our Vietnam involvement trying to decide what winning meant, and what one had to do in order to say he'd won . . . Neither in

²¹⁵ Major General Donn Starry, "Rationale for Changes in Tactics, Gunnery, ATT, ATP," back-channel message to General William DePuy, 8 July 1974, Starry Papers, Box 2, Folder 12. Emphasis in the original.

²¹⁶ Brigadier General Paul Gorman, "How to Win Outnumbered," sent as an enclosure to a letter to Major General Donn Starry, 8 January 1974, Starry Papers, Box 2, Folder 7.

Washington nor in the field did we ever satisfactorily answer the question. Our ‘unconditional surrender’ heritage made it impossible for us to reason clearly to a logical alternative. Now we must.²¹⁷

The frustrating experience in Vietnam and the enormity of the evolving conventional challenges confronting the post-Vietnam Army in Europe had distorted how the institution conceptualized winning. The Army needed something more concrete than what it had pursued in Vietnam, but recognized its inability to achieve the decisive, convincing victories implied by the unconditional surrender policies of World War II. Thus, the Army required an intermediate solution, something discrete and clear but also doable given its current limitations. In his letter to Starry, Allen articulated such a concept for winning (with which Starry concurred in his response):

We must recognise [sic] that we shall face an enemy greatly superior in numbers but one who must achieve very rapid military success if he is to achieve his aim. If we deny him that rapid success and halt his advance we shall force him to negotiate in a situation in which the overall military balance is preserved—and we shall have won that first battle.²¹⁸

Allen’s reference to winning the first battle reflected Starry’s First Battle of the Next War thesis, which Starry had previously sent to him.

This, then, was the final piece of the governing narrative that TRADOC would project and with which it would drive revisions of the Army’s capstone doctrine: be able “to win the first battle of the next war while fighting outnumbered.”²¹⁹ In confronting the

²¹⁷ Major General Donn Starry, letter to Major General J.G.R. Allen, 26 March 1975, Starry Papers, Box 3, Folder 5.

²¹⁸ Major General J.G.R. Allen, letter to Major General Donn Starry, 7 March 1975, Starry Papers, Box 3, Folder 5.

²¹⁹ DePuy, “Implications of the Middle East War on U.S. Army Tactics, Doctrine, and Systems,” 66 (of briefing script).

challenge of winning the first battles of the next war, TRADOC developed an approach in which it sought to posture the Army to survive on the modern battlefield and prevent the Warsaw Pact from achieving its objectives. To do so required the elimination of uncertainty and the ruthless synchronization and massing of fires, a view in which risk could only be seen as the potential for loss.

Integration: Deciding What has to be Done
and the 1976 Version of FM 100-5

In the immediate aftermath of the 1973 Arab-Israeli War, by then retired IDF Chief of Staff, Lieutenant General David Elazar, commented:

The Arab Armies used Soviet equipment according to the Soviet doctrine, but the standard of their efficiency was far from what is expected by the Soviets in the operation of their equipment. On the other hand, the [IDF] used Western equipment, mainly American, but its doctrines are for the most independent and original, deviating in many cases from US Army norms.²²⁰

To compete on the modern battlefield, the U.S. Army recognized that it would have to significantly revise its capstone doctrine, but to what extent would these revisions reflect the doctrinal approach modeled by the IDF during its performance in the 1973 War?

Eight days before providing his synopsis of the SRSG's assessments and recommendations on the lessons of the 1973 Arab-Israeli War to Abrams, DePuy disseminated a draft operational concept of how he thought the Army needed to fight to the commanders of the infantry, armor, field artillery, air defense, and engineer schools and centers as well as to Major General John Cushman, the commander of the new Combined Arms Center at Fort Leavenworth, Kansas. DePuy directed his subordinate

²²⁰ Lieutenant General (Retired) David Elazar, "The Yom Kippur War: Military Lessons," in Williams, 245-246.

commanders to treat the draft operational concept like a “pot of soup”—into which they should contribute their ideas and functional expertise in a running, collaborative effort to figure out the doctrinal solution required to win the Army’s next first battle.²²¹ DePuy sought to inspire and drive evolutionary changes in broad and branch-specific doctrine, training and instruction, weapons systems requirements, as well as force development evaluations and experiments. The draft operational concept was organized into four sections: a discussion of the general background, one on battlefield dynamics, and one each on offensive and defensive operations. While TRADOC’s leaders would refine this concept over the next two years, culminating in the publication of a dramatically revised capstone doctrine, the essential elements would endure. These included preferences for the defense over the offense, firepower over maneuver, the power of technology over the human decision dimension, as well as tight, highly synchronized control over decentralized command.²²² All would impact the Army’s relationship with risk.

The schools and centers hustled to publish branch-specific doctrinal manuals and training circulars to bridge the now-evident gap between the current and evolving capstone doctrine. These efforts integrated insights from discussions with the Army’s operational commanders (at multiple echelons), the U.S. Air Force’s Tactical Air Command, and senior commanders from the primary NATO allies of the United States. By late 1974, DePuy’s approach to the evolving doctrine was clear: he wanted how-to-

²²¹ General William E. DePuy, letter (with enclosure) to Major Generals Tarpley, Starry, Ott, LeVan, Maddox, Cushman, and Parfitt, 23 July 1974; reproduced in Swain, *The Selected Papers of General William E. DePuy*, 121-135.

²²² Ibid.

fight ideas consolidated, codified, and based on concrete facts and quantifiable data. The doctrine had to be accessible, applicable, and comprehensible to those tactical leaders charged with its employment. The formal effort to revise the capstone doctrine began in mid-December 1974 at a senior-commander conference held at Fort A.P. Hill during which those in attendance established the outline for the new FM 100-5 as well as the derivative how-to-fight manuals.²²³

DePuy provided his commanders ample advanced warning of his intent and expectations:

We have now participated in enough discussion, listened to enough briefings and seen enough demonstrations to have the best consensus on how to fight that has probably ever existed in the school system of the United States Army. It is now time to institutionalize and perpetuate this consensus through doctrinal publications. In this respect, I look to each of you personally to bring this about. If necessary, you must write them yourselves, as I hold each of you personally responsible for achieving the objective I have set.²²⁴

However, this process proved to be frustrating for those TRADOC leaders most invested in the Army's doctrinal and institutional change. In response, a small cabal of "true believers," comprising DePuy, Starry, and Gorman, emerged and applied their personal influence and effort to drive the necessary change.²²⁵ In a remarkable letter from late November 1975, Starry explained the process used to accelerate the writing and

²²³ Romjue, *From Active Defense to AirLand Battle*, 3-6.

²²⁴ General William E. DePuy, letter to Major Generals Cushman, Tarpley, Ott, LeVan, Starry, Parfitt, Myer, and Maddox, 10 October 1974, Starry Papers, Box 3, Folder 2.

²²⁵ The seminal study concerning how DePuy leveraged his personal influence and positional power to drive the doctrinal change during this period is Herbert, *Deciding What Needs to Be Done*; for a more recent look at this process of doctrinal change through the lens of organizational science and theories of innovation, see Jensen, 25-55.

publication of the Army's new capstone doctrine: "Because of the bureaucratic lethargy at Leavenworth . . . the book was written by an informal power bloc whilst the formal structure stood watch in the wings. Now to avoid having all the staffs nitpick (sic) the thing General DePuy will go direct to General Weyand and then publish, thus blocking out the intervening bureaucratic phalanx(es)."²²⁶

The new edition of FM 100-5, published in July 1976, set the tone for the enormity of the problem confronting the Army and how it must respond in its opening paragraphs:

Because the lethality of modern weapons continues to increase sharply, we can expect very high losses to occur in short periods of time. Entire forces could be destroyed quickly if they are improperly deployed. Therefore, the first battle of our next war could well be its last battle . . . This circumstance is unprecedented: we are an Army historically unprepared for its first battle. We are accustomed to victory wrought with the weight of materiel and population brought to bear after the onset of hostilities. Today, the US Army must, above all else, *prepare to win the first battle of the next war.*²²⁷

Thus, the Army had to be prepared to fight and win immediately while outnumbered and at the ends of long lines of communication. This new doctrine eschewed the abstract and theoretical in favor of the practical, quantifiable reality of the modern conventional battlefield. The second chapter provided readers with a detailed, data-driven analysis (drawn almost exclusively from the 1973 Arab-Israeli War) of trends in each of the combat arms as well as special topic areas, such as night combat, electronic warfare, and tactical nuclear weapons. The key take-away was the dilemma posed by the modern

²²⁶ Major General Donn A. Starry, letter to Major Wilder M. Snodgrass, 25 November 1975, Starry Papers, Box 3, Folder 12.

²²⁷ HQDA, FM 100-5 (1976), 1-1.

battlefield's lethality, intensity, and density. This environment involved a strong potential for catastrophic loss for Army elements unprepared to conduct an outnumbered, forward-deployed, combined-arms defense.

Of the manual's many themes and evolutions, the new priority given to the conduct of defensive operations (over those of the offense) is arguably the most striking. DePuy set conditions for this operational bias in the sketched concept enclosed to his aforementioned Pot of Soup letter. Over the subsequent months, FM 100-5's key contributors refined this concept's key elements. The doctrine's writers gave priority to the defense, acknowledging that DePuy's initial concept represented "a considerable change in US doctrine" and shift in this direction. It was imperative for the Army's leadership "to come to a mutual understanding of the philosophy which must underlie our defensive scheme."²²⁸

TRADOC's leaders emphasized defensive operations more significantly in their re-examination of existing Army doctrine because "that would be the first order of business for any commander on the European battlefield." Based on the new lethality of modern weapons and the evolving Soviet doctrine of mass, momentum, and continuous operations, the doctrine's writers believed that a Soviet multi-echelon deliberate attack and rapid exploitation would be the "toughest operation to oppose."²²⁹ The writers deemed the existing doctrine for both area and mobile defenses insufficient. Neither

²²⁸ See for example, Major General Donn Starry, "Defense," back-channel message to General William DePuy, 17 October 1974, Starry Papers, Box 3, Folder 2.

²²⁹ General Donn A. Starry, letter to Captain Edgar G. Kleckley, 25 February 1980, Starry Papers, Box 20, Folder 1, 1-4.

defensive concept allowed the Army to concentrate sufficient firepower in the zone of contact to defeat a Soviet attack. Additionally, in the case of the existing mobile defense concept, the forward deployed force would be unable to “control” the penetration of Soviet forces and set conditions for a successful counterattack.²³⁰ Moreover, TRADOC’s leaders were equally dissatisfied with the existing concepts for security operations; they believed the multiple layers called for in the existing doctrine required too many rearward passages of lines and prevented the necessary concentration and synchronization of fires. Thus, the doctrine writers considered all of these concepts to be too cumbersome and insufficient for the fast pace and stark lethality of modern combat.²³¹

As a substitute for the existing defensive doctrine, the writers sought a robust defense in depth—one in which “the defense [would] begin as far forward as possible and continue in that area as long as possible, and in the process destroy as many of the enemy as possible by ambush and attack,” effecting a “sort of symphonic destruction of the attacking echelon.”²³² The new defensively-oriented concept that emerged, Active Defense, would become the manual’s governing idea. FM 100-5 sought to simplify the organization of the battlefield: in place of layered security operations and multi-echeloned area- and mobile-defense schemes, the new doctrine called instead for a deep covering force and a main battle area (with a rear area for combat service support and command and control facilities). In the simplest terms, Active Defense comprised a

²³⁰ General Donn A. Starry, letter to Captain Edgar G. Kleckley, 25 February 1980, Starry Papers, Box 20, Folder 1, 1-4.

²³¹ Ibid.

²³² Starry, “Defense,” 4.

tightly synchronized defense in depth in which friendly elements maximized the employment of available fires while conducting a bounding overwatch in reverse. The goal was to grind up the advancing enemy forces and deny them the rapid, decisive victory that their own doctrine demanded. Significantly, of the eight articulated purposes for the defense, the doctrine writers demoted conducting it as a prelude to offensive operations to sixth place, the first time in the history of the Army's capstone manual that it had not ranked first.²³³

Conceptualizing risk as the potential for loss permeated this defensively-oriented doctrine. For instance, in the manual's third chapter ("How to Fight"), FM 100-5 warned readers that "outnumbered forces cannot afford mistakes." More broadly, to survive the lethality of the modern battlefield, the doctrine instructed commanders to emphasize protection and firepower: "the battle must be fought using cover, concealment, suppression, and teamwork."²³⁴ Furthermore, even though the doctrine encouraged commanders to "be willing to take risks on the flanks" in the defense, this guidance was not about embracing uncertainty and risk for potential gain. Instead, this guidance to concentrate forces at the decisive time and place sought to give friendly defenders the means by which to survive the ferocity of a Soviet break-through attack. A defense that spreads itself too thinly, with substantial flank covering forces and a reserve, "will in

²³³ Kretchik, 200.

²³⁴ HQDA, FM 100-5 (1976), 3-6, 3-17.

effect be defeated piecemeal because everywhere it will be too weak and thus overwhelmed.”²³⁵

The doctrine’s unwillingness to maintain a robust reserve says much about the Army’s conceptualization of risk and the perceived role and impact of uncertainty in battle. The manual advised commanders that “it may frequently be necessary, even advisable, to defend” and that the defender enjoys many advantages—all except the initiative. Although the doctrine goes on to say that one must attack to gain the initiative, the absence of a reserve effectively denied the defender from ever having the opportunity to do so.²³⁶ Starry would later concede that the absence of a reserve was one of the manual’s biggest problems, but, even years later, he sought to justify the thinking of the doctrine’s writers within the context of the period during which they were developing the manual. Simply put, to survive and prevent the enemy from achieving its objectives, Army elements had to commit as much firepower to the zone of contact as possible.²³⁷ This approach deprived the Army of the opportunity to gain, maintain, and exploit the initiative. The doctrine’s writers perceived the play of chance as a grave threat and thus sought ways to eliminate its influence. Therefore, the doctrine’s writers never seriously considered the value of risk taking on the modern battlefield.

Another distinguishing characteristic of this doctrine was its heavy emphasis on the importance of combined-arms integration and cooperation. In the immediate

²³⁵ Ibid., 5-3.

²³⁶ HQDA, FM 100-5 (1976), 5-2.

²³⁷ Starry, letter to Captain Edgar G. Kleckley, 5.

aftermath of the 1973 Arab-Israeli War, there were pessimistic discussions concerning the demise of the tank on the modern battlefield; many commentators thought that the rapid advance and proliferation of precision-guided munitions had rendered the main battle tank obsolete. Ultimately though, a more rigorous examination of the data from the 1973 War confirmed that the tank remained the dominant weapon system on the battlefield.²³⁸ However, in order to survive and achieve one's objectives in this increasingly lethal environment, the tank had to fight as a member of an effectively synchronized and trained combined-arms team. In 1975, as the writers were busily shaping the capstone doctrine, Starry sent DePuy a frustrated back-channel message in which he lamented the focus among combat developers and center commanders upon killing enemy tanks in the main battle area. He wanted the Air Force to focus their sorties on interdiction strikes (vice close air support) and the artillery to "get the enemy infantry and artillery off [the armor elements'] backs and suppress air defenses." Every element needed to focus on "their complementary contribution to the armed brawl in progress below them." The enemy believed in the "complementariness of his systems," and thus so should the U.S. Army.²³⁹ DePuy and Gorman were both in violent agreement with

²³⁸ See for example, Major General Donn A. Starry, "Observations on the Tank-Antitank Battlefield," *Armor* 83, no. 1 (January-February 1974): 4-6. Additionally, Starry is adamant about the enduring prominence of the tank in his report on the lessons of the 1973 Arab-Israeli War: of his three major lessons, one is that "the tank is the dominant land weapon system;" see Starry, "October 1973 Mideast War," 1, 13.

²³⁹ Major General Starry, "Who Plays What in the Symphony," back-channel message to General DePuy, 25 September 1975, Starry Papers, Box 3, Folder 8.

Starry, and the imperative for combined-arms integration was thus a central theme throughout FM 100-5.²⁴⁰

Effective implementation of the combined-arms team allowed friendly forces to optimize their use of concentrated and well-synchronized fires. The emphasis on firepower (over maneuver) as well as the proper and disciplined employment of the most sophisticated emerging technologies represent two further and significant shifts in the Army's doctrinal thinking. The battle that TRADOC's leaders envisioned would boil down to a shooting contest in which the victor would emerge based on his ability to destroy more of the enemy more rapidly and more fully than the damage he himself sustained in the process. FM 100-5 was clear in its guidance: "the skillful commander substitutes firepower for manpower whenever he can do so." Commanders were to move their forces on the battlefield in order to gain fire superiority at the decisive place and time, i.e., "to concentrate overwhelming combat power and to decisively alter force ratios when and where [he] choose."²⁴¹

The doctrine's emphasis on firepower and seeking the advantage through favorable combat-power ratios introduced an antiseptic quality into the Army's thinking and approach to warfare. As historian Walter Kretchik has argued, "technology and men

²⁴⁰ DePuy's traveling road-show brief on the implications of the 1973 Arab-Israeli War identified three main lessons, the second of which was: "in order to cope with [the new lethality] it is essential we have a highly trained and highly skilled combined arms team of armor, infantry, artillery, and air defense backed by the support required to sustain combat operations;" see DePuy, "Implications of the Middle East War," 2. Although an emphasis on combined-arms integration permeates the manual's many parts, the clearest and most direct statement about its necessity on the modern battlefield is in chapter 3 ("How to Fight"); see HQDA, FM 100-5 (1976), 3-10 - 3-15.

²⁴¹ HQDA, FM 100-5 (1976), 3-4.

[now] combined to form a weapon system . . . But doing so meant that the Army had relegated people to being components of a machine . . . In promoting technology, the Army had replaced the soldier as its cultural icon.”²⁴² In an attempt to overcome the chance and friction long thought inherent to battle, the revised FM 100-5 endeavored to provide Army commanders with a formulaic, probabilistic approach to the challenges of modern warfare. The manual is replete with charts and data combining rates of fire and movement back-dropped against types of cover and concealment in support of the force ratios thought required for success in modern battle. For example, in chapter 3, the doctrine advised readers that an M60 tank, when moving at least twelve miles per hour, was 25 percent less vulnerable to the main gun of a Soviet T62 tank at engagement ranges of up to one mile.²⁴³ Technical proficiency was deemed more important than more subjective factors; as historian Brian Linn has commented, “soldiers were [now] largely important in their role as operators of machinery.” To overcome the lethality, intensity, and density of the modern battlefield, the Army sought to provide commanders with formulas, probabilities, and “target servicing” goals, suggesting that “if [the doctrine’s] complicated formulas were followed, victory was inevitable.”²⁴⁴

The 1976 version of FM 100-5 asserted that there were four prerequisites for winning a battle, collectively called “battlefield dynamics.” In addition to the concentration of adequate combat-power ratios, maximizing the use of one’s weapon

²⁴² Kretchik, 198.

²⁴³ HQDA, FM 100-5 (1976), 3-11.

²⁴⁴ Linn, 204.

systems, and the expert use of cover, concealment, suppression, and the combined-arms team, the manual instructed commanders to control and direct the battle “so that the maximum effect of fire and maneuver is concentrated at decisive locations.”²⁴⁵ TRADOC’s leadership assumed that the orchestration of such a technologically sophisticated, lethal, and fast-paced fight would require exceptionally tight control. DePuy’s thinking about the degree of control required for the U.S. Army to survive on the modern battlefield was clear:

To win when fighting outnumbered, it is necessary to concentrate forces at the critical point and at the critical time on the battlefield. In other words, in order to move to the right place, you’ve got to see the battlefield better than the enemy sees it so you know where to go and when to go. In order to move rapidly to that critical point, you must have total control over your combat elements; so that when you order a battalion to move, it will move.²⁴⁶

This demand for tight control represents the last of the most significant doctrinal shifts effected by the new FM 100-5. In advocating for tight control, the manual eschewed the encouragement in previous doctrine for commanders to decentralize in order to enable their subordinates to exploit fleeting opportunities and pursue the initiative in the absence of specific guidance.²⁴⁷ FM 100-5 now placed commanders far forward so that they would be able to “see, feel, and control the battle.” The doctrine foresaw an almost unprecedented need for control: “Not since the war between the North

²⁴⁵ HQDA, FM 100-5 (1976), 3-3.

²⁴⁶ DePuy, “Implications of the Middle East War,” 3-4.

²⁴⁷ Clinton J. Ancker, “The Evolution of Mission Command in U.S. Army Doctrine, 1905 to the Present,” *Military Review* 93, no. 2 (March-April 2013): 46-47.

and South, will commanders of brigades and divisions as well as battalions be so personally and closely involved in the battlefield direction of combat elements.”²⁴⁸

The only part of the manual that addressed the need for and importance of initiative and decentralization was a brief passage in the discussion on leadership:

The strength of our Army lies in the decentralization of responsibility and authority to the commander on the ground. We cannot avoid to lose that additional combat effectiveness which derives from the intelligent actions of trained leaders operating under a flexible system of mission-type orders. Thus, each officer must be imbued with the idea that success will depend upon the skill, initiative, and imagination with which he seeks to accomplish the assigned mission within the concept and intent of the commander.²⁴⁹

However, this lone section came with a significant caveat. To be able to effectively decentralize and allow subordinates to pursue the initiative, leaders needed to be trained to expert levels of tactical and technical proficiency. TRADOC’s leaders were concerned that the lack of such proficiency would carry a substantial cost; FM 100-5 warned leaders against compensating “for [their] lack of competence with the bravery of [their] soldiers.”²⁵⁰

The new doctrine essentially pivoted on this concern. As the U.S. Army reoriented toward the challenges of modern combat after more than a decade of lower-intensity fighting in the jungles and rice paddies of Vietnam, its senior leaders were understandably worried that the Army no longer possessed the proficiency required to compete and win. In their view, the decentralization of responsibility and authority as

²⁴⁸ HQDA, FM 100-5 (1976), 3-11; quoted and discussed in Ancker, 46.

²⁴⁹ Ibid., 3-2; quoted and discussed in Ancker, 46-47.

²⁵⁰ HQDA, FM 100-5 (1976), 3-2; quoted and discussed in Ancker, 46-47.

well as the aggressive pursuit of the initiative were luxuries that the current Army could not afford. Over the course of writing the manual, the question of decentralization had been at the forefront of Starry's thinking. His first "Commander's Hatch" entry as commandant of the Armor School addressed this topic specifically.²⁵¹ However, during his first year at Fort Knox, he traveled widely and engaged the Army's operational elements in the United States as well as those stationed in Germany. He concluded that the Army's field leadership, in many cases, did not understand how to properly decentralize, and he shared those concerns with DePuy, Gorman, and his fellow school and center commanders.²⁵² The perceived lack of technical and tactical proficiency within the force combined with the imperative to rapidly coordinate combat power at the decisive place and time led the doctrine's writers to sacrifice the traditions of decentralization and pursuit of the initiative in favor of tight control and synchronization.

²⁵¹ Major General Donn A. Starry, "The Commander's Hatch," *Armor* 82, no. 5 (November-December 1973): 4-5. In this essay, Starry defined decentralization as "the delegation of responsibility and authority for executing a mission to the lowest level of command which has, or to which can be made available, the requisite resources for accomplishing the mission."

²⁵² After returning from his trip to Europe and Israel in April 1974, Starry sent DePuy a backchannel message in which he made five broad points, the second of which concerned the field's inability to decentralize training management: "There is a prevailing tendency among battalion/squadron commanders to turn it all over the company/battery/troop commander, wishing him well, and when things go wrong, complaining about the quality of captains and lieutenants these days;" see Major General Donn Starry, "Observations from the Europe Trip," back-channel message to General DePuy, 1 May 1974, Starry Papers, Box 2, Folder 11. Two weeks later, Starry sent a copy of these observations, in memorandum format, to the commanding generals of the Infantry, Field Artillery, and Air Defense Centers as well as the Combined Arms Combat Development Activity; see Major General Donn Starry, "Observations from Europe Trip," Memorandum for Record to Major Generals Tarpley, McAuliffe, LeVan, and Ott, 14 May 1974, Starry Papers, Box 2, Folder 11.

The U.S. Army's new doctrine thus subordinated the resourcefulness, willingness to dare, and improvisation that the IDF sought to cultivate in its officers to the altar of technical and tactical proficiency.

Finally, the focus of the 1976 version of FM 100-5 was almost exclusively at the tactical level. It described how the Army needed to fight at the division level and below. Even though the Army's doctrine would not adopt formal language concerning the operational level of war until the 1982 version of FM 100-5, the 1976 version's intensive focus on lower-echelon tactics and techniques represents a sharp turn from previous, post-World War II versions of the Army's capstone doctrine. Previous manuals had addressed the more conceptual challenges of warfighting at higher levels, providing a richer context for the Army's tactical actions.²⁵³ This tactical emphasis combined with the manual's marked preferences for firepower, technology, tight control, and defensively-oriented combat suggested much about the reforming Army's orientation toward risk. Uncertainty and risk, for a recovering Army lacking the requisite technical and tactical proficiency for the demands of the modern battlefield, could only augur the potential for loss. The Army emerging from Vietnam could not afford to engage uncertainty and take risks. First, it had to figure out how to survive and prevent the enemy from winning.

Conclusion

The 1973 Arab-Israeli War provided TRADOC's new leadership with a data-rich environment to better understand the accelerating lethality, intensity, and density of the

²⁵³ Kretchik, 159-204.

modern, mid-intensity, conventional battlefield. It also served as a powerful rhetorical device to generate the sense of urgency required to drive reform for an Army that had missed out on a generation of such modernization opportunities.²⁵⁴

These reformers applied the intensively quantitative methodologies of the 1960s and early 1970s to derive the relevant lessons from the conflict. A pathology for information geared them toward measuring things like rates of movement and fire, effective engagement ranges, and probabilities of kill. In the 1973 War, the Army's reformers saw a problem—fighting a forward-deployed defense on a battlefield of unprecedeted lethality against a quantitatively superior enemy—that reflected its own challenges on the plains of Central Europe. The narrative that arose to convey the urgency and difficulty of this problem left little room for the use of an amateur army forced to learn through the crucible of combat. The Army had to be ready now to fight and win the first battle of the next war. However, winning for the American Army really meant surviving and preventing the Warsaw Pact from achieving its aims of a rapid, decisive victory. In order to win the Army needed to reacquire the expert levels of technical and tactical proficiency that had decayed during more than a decade of fighting in Vietnam. The Army's leaders recognized this even before the 1973 Arab-Israeli War occurred. The men who led the lesson-learning effort thus saw what they wanted to see in the data they collected and analyzed from the conflict.

This is not to suggest that they drew inaccurate lessons from the war, but rather to say that these initial lessons were limited in their potential scope. As discussed in chapter

²⁵⁴ Robert Doughty, *The Evolution of U.S. Army Tactical Doctrine, 1946-1976*, Leavenworth Papers No. 1 (Fort Leavenworth, KS: Combat Studies Institute, 1979), 41.

3, the IDF's ability to prepare for, conceptualize, and respond to operational risk was built on a foundation of combined-arms tactical proficiency. For the U.S. Army of the mid-1970s this was then its focus. The ability to appreciate and even attempt to learn and implement the more conceptual, qualitative lessons of the 1973 War was, in many ways, not yet possible.

At a broad level, military doctrine not only provides a common philosophy, language, and purpose,²⁵⁵ but also, as political scientist Barry Posen had argued, "reflects the judgments of professional military officers . . . about what is and is not militarily possible and necessary."²⁵⁶ The 1976 version of FM 100-5 reflected such judgments. The Army had to find a way to survive, fight effectively, and ultimately win, but first it had to fix and then master its tactics. Until then, the scope and ambition of its doctrinal concepts needed to remain limited.

An aversion to uncertainty and risk thus permeated the 1976 version of FM 100-5. In the 1973 Arab-Israeli War, the IDF offered a model with respect to operational risk taking. Upon the aforementioned foundation of expert combined-arms tactical proficiency, the IDF layered a maneuverist doctrine with a bias for the offense, a strong commitment to the power of technology (but as an enabler in the hands of human decision-makers), and a fluid, decentralized system of command in which pursuit of the

²⁵⁵ General George Decker, address to the U.S. Army Command and General Staff College, 16 December 1960; quoted in School of Advanced Military Studies, *Art of Design Student Text*, ver. 2.0 (Fort Leavenworth, KS: School of Advanced Military Studies, 2009), 35.

²⁵⁶ Barry Posen, *The Sources of Military Doctrine* (Ithaca, NY: Cornell University Press, 1984), 14.

initiative was the priority. The doctrine that the U.S. Army published after its initial study of the 1973 War reflected the IDF's emphasis on tactical proficiency, but postured the Army in the opposite direction concerning all of the other features of the model (see figure 11).

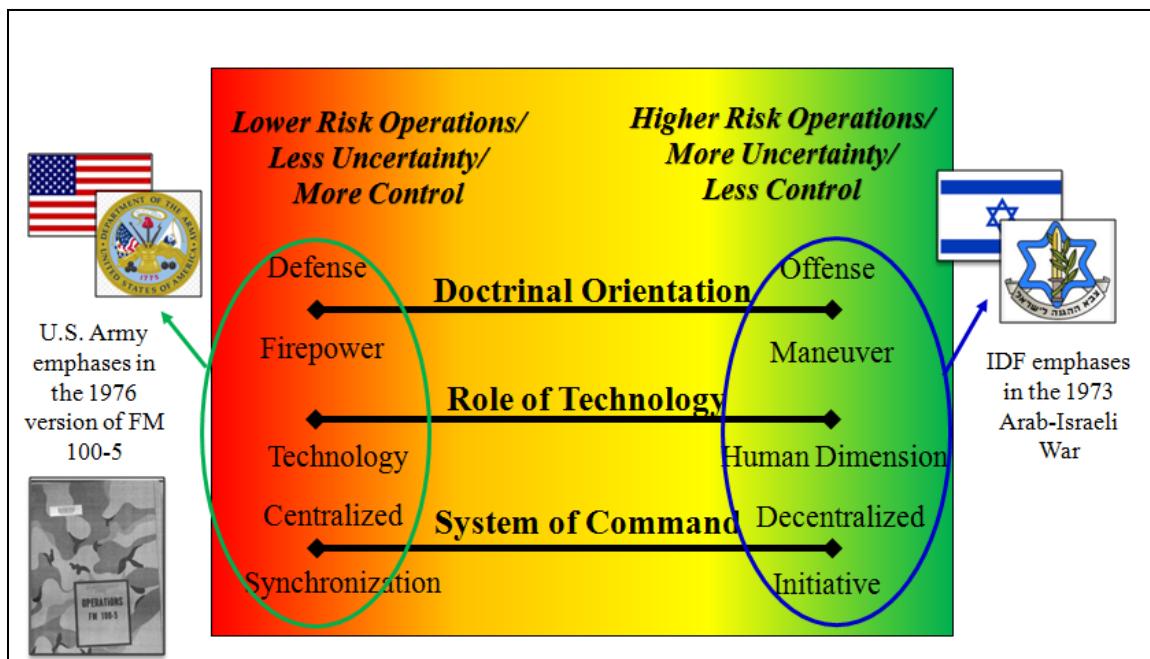


Figure 11. The Elements of Operational Risk: U.S. Army vs. the IDF

Source: Created by author.

Whereas the IDF operated on the extreme right of the above figure, the U.S. Army's new doctrine oriented it to the extreme left. To win, DePuy and the other doctrine writers believed that the Army had to fight a tactically proficient, technologically sophisticated, tightly controlled and synchronized, firepower-intensive defense. Tight control and rigorous battlefield calculus were paramount; to overcome the challenges of

the density-intensity-lethality equation that TRADOC's leadership framed, they provided formulas, probabilities for success, and target-servicing guidance. Successful and disciplined implementation of these doctrinal concepts would provide the Army the qualitative edge it required over its quantitatively superior adversary.

CHAPTER 5

INTERPRETATION, DOCTRINAL INTEGRATION, AND IMPLEMENTATION, 1976-1982: EXPANDING THE APERTURE AND EMBRACING UNCERTAINTY

The recurring message of analytical studies, confirmed by the Arab-Israeli Wars, especially by IDF experience in the Yom Kippur War, was that, while numbers do count, almost regardless of numbers battle goes to the side that sometime in the fight seizes the initiative and holds it to the end . . . The best illustration at hand being the attack of Major General Musa Peled's Division on the Golan Heights the second day of the Yom Kippur War. Here instead of deploying his reinforcing division piecemeal to plug gaps in the line, [Peled] insisted on taking the initiative, attacking onto the flank of the overwhelming Syrian force.

— General Donn Starry, Letter to Dr. Richard Swain

The chaos of battle will not allow absolute control. As the battle becomes more complex and unpredictable, decision-making must be more decentralized. [The imperative to use mission orders] will require leaders to exercise initiative, resourcefulness, and imagination—and to take risk.

— Headquarters, Department of the Army, FM 100-5, *Operations* (1982)

Introduction

Chapter 4 examined how the U.S. Army distilled the initial lessons of the 1973 Arab-Israeli War with respect to operational risk and then instantiated those lessons within its capstone doctrine. The publication of the dramatically revised FM 100-5 in July 1976 was met with mixed reviews. That manual typified a U.S. Army still very much in transition from a conscript force extricating itself from the jungles of Vietnam to a more modern, professionalized, all-volunteer Army aspiring to deter the Warsaw Pact on the plains of Central Europe. The Army of the mid-1970s assiduously sought control and certainty. Thus, Army commanders were to avoid situations in which the play of chance

and friction could make their quantitatively inferior forces vulnerable to destruction and defeat on the increasingly lethal, mid-intensity battlefield.

The purpose of this chapter is to analyze, through the lens of operational risk, the next stage in the Army’s efforts to reform and modernize. First, this chapter will explore the response to the 1976 version of FM 100-5 in order to illuminate the fundamental tension between what the Army then needed to do and what it aspired to do.

Next, this chapter will explore the mechanisms through which TRADOC sought to implement the Army’s evolving doctrine. Many of these reforms began during the tenure of General William DePuy and continued during that of his successor, General Donn Starry—although in some cases Starry modified them considerably. This section will assess the impacts of the Army’s efforts to operationalize and enable its new tactics through a training revolution, a shifting approach to education and leader development, as well as a robust equipment modernization program, all of which the Army conducted concurrently with the doctrinal reforms.

Third, this chapter will examine the incongruity between the concepts of Active Defense and the battlefield realities of Central Europe. This section will pivot on the experiences of Starry, who, as the commanding general of V Corps, recognized that, even if expertly implemented, Active Defense was ultimately insufficient for the scope of the problem then confronting the Army and its NATO allies. Starry’s experiences spurred re-engagement with the lessons of the 1973 Arab-Israeli War, providing him with an opportunity to finally appreciate the full scope of the lessons offered by the IDF with respect to operational risk from its performance during that conflict. During this period,

the Army also re-examined, evolved, and ultimately expanded its understanding of the broader range of military problems confronting it.

Finally, this chapter will analyze how TRADOC transformed the Army's capstone doctrine to reflect its new understanding of these military problems. During Starry's tenure as commanding general of TRADOC, he broadened and elevated the aperture through which the Army and its commanders perceived and interpreted these problems and their attendant risks. The complexity and uncertainty of battle became increasingly apparent during this period of study and reflection—hard, enduring truths that the antiseptic, quantitative methodologies of Active Defense aspired to eliminate. The Army's new capstone doctrine, AirLand Battle, sought to gain, maintain, and exploit the initiative amidst the chaos and fluidity of the modern battlefield. With growing confidence in the tactical proficiency of their combat formations, Army commanders were once again told that the offense was the decisive form of war and that to win they must attack.

Response to the 1976 Version of FM 100-5: An Ambition for More

The publication of the 1976 version of FM 100-5 forced the U.S. Army, as an institution, to confront its current capabilities and level of readiness. The doctrine was a bold statement of what Army elements forward deployed against the Warsaw Pact would have to do in order to survive and prevent the enemy from achieving the rapid, decisive victory it desired. Additionally, the manual's description of how to fight struck a chord with many Army officers and planted seeds of ambition that would germinate over the coming decade; many aspired to fight in more dynamic, advanced ways. The delta

between the present and the desired future generated the angst, sense of urgency, and professional focus that would catalyze the subsequent sequence of doctrinal revisions.

In response to the publication of the 1976 version of FM 100-5, the military journals lit up with commentary, and the reviews were decidedly mixed.²⁵⁷ Many reviews were favorable and acknowledged the manual as the start of a “doctrinal renaissance.”²⁵⁸ Canadian Brigadier General Dan Loomis lauded the manual for “reorienting the [U.S. Army and its allies] toward the projected battle in northwest Europe against Warsaw Pact forces,” signaling a clear “strategic transition point.”²⁵⁹ Additionally, Archer Jones, the former chair of military history at the U.S. Army CGSC, attempted a balanced review of the new manual, arguing that its fundamental virtues outweighed its defects. For him, these virtues included: (1) a commitment to concentration, at the enemy’s weak point on the offense and at its strong point on the defense; (2) “a rediscovery of the superiority of the defense;” (3) “recognition that the tank is not the best anti-tank weapons system,” requiring the development of superior counter-weapons systems and the employment of combined-arms tactics; and (4) an original contribution to the theory of the defense. Jones also commended the manual’s emphasis on a “return to fundamentals.”²⁶⁰

²⁵⁷ For a brief overview of the commentary, see Kretchik, 201-202.

²⁵⁸ Phillip A. Karber, “Dynamic Doctrine for Dynamic Defense,” *Armed Forces Journal* 114, no. 2 (October 1976): 28.

²⁵⁹ Brigadier General Dan Loomis, “FM 100-5, *Operations*: A Review,” *Military Review* 57, no. 3 (March 1977): 66.

²⁶⁰ Archer Jones, “The New FM 100-5: A View from the Ivory Tower,” *Military Review* 63, no. 2 (February 1978): 27-36.

However, the manual also inspired an uproar of negative criticism. One of the earliest and most cogent dissenting voices was that of William S. Lind, an Ivy League-educated legislative aide to Senator Gary Hart. In his piece, Lind questioned the validity of four aspects of the 1976 version of FM 100-5: (1) the requirement to fight outnumbered and win; (2) the imperative to win the first battle; (3) the emphasis on firepower and attrition at the expense of maneuver; and (4) the elevation of small-unit defensive tactics to the higher-tactical level, implying, in Lind's view, a shift in the Army's thinking toward something approximating a "Maginot mentality."²⁶¹ However, Lind's voice was only the first of many to follow.

Historian John Romjue has previously summarized the six most significant and consistent criticisms of the doctrine.²⁶² First, and perhaps most significantly, was the manual's apparent shift in emphasis from the offense to the defense, a perception that cut at the core of the Army's identity and spirit. Second, while the doctrine's writers had employed the rhetoric of winning the first battle to convey the lethality, intensity, and density of the modern battlefield and thus the requirement to be ready to fight and win immediately, many believed this orientation would disadvantageously posture the Army for the Warsaw Pact's multiple follow-on echelons in extended fighting. Third, critics accused the new doctrine of being based too specifically on defending against a Soviet narrow-front, break-through attack (and subsequent exploitation), when, in fact, the Soviets were also learning and implementing lessons from the 1973 Arab-Israeli War and

²⁶¹ William S. Lind, "Some Doctrinal Questions for the United States Army," *Military Review* 57, no. 3 (March 1977): 54-65.

²⁶² Romjue, *From Active Defense to AirLand Battle*, 13-21.

adjusting their doctrine accordingly. In place of a penetration along a narrow front, the Red Army's doctrine was now advocating a more dynamic, multi-pronged attack. Fourth, critics condemned the perceived elimination of a tactical reserve in order to maximize the concentration of friendly weapon systems at the point of Soviet penetration. For example, in 1979, when Brigadier General Avigdor Kahalani, the IDF battalion commander who anchored the 7th Armored Brigade's heroic defense along the Golan Heights, was asked about the new Active Defense doctrine, he was diplomatic in most of his criticisms, but pointed in his disagreement over the absence of a reserve in the doctrine:

We do not have enough soldiers. We must rely on a large resource of on-call reserves. It is a lot like [the U.S.'s] problems in Germany. I will not suggest how [you should] do it, but I will say that you must maintain flexibility and the ability to attack the enemy, to stop the enemy at the point he attempts to break through you, and reseize the initiative. My opinion is that this is the mission of the reserve force.²⁶³

Fifth, critics lamented the doctrine's perceived shift from a war of movement and maneuver to one of firepower and attrition, undercutting an institutional assumption to which the Army was historically accustomed. This critique stirred up a response similar to that evoked by the perceived new emphasis on the defense. Finally, critics attacked the manual's stress on concentration tactics. The friction and unpredictability of the modern battlefield, including advanced electronic warfare technologies and the Soviet's considerable advantages in artillery, would make the complex coordination required to achieve these concentrations extremely difficult, if not impossible.

²⁶³ Major Geoffrey G. Prosch, "Israeli Defense of the Golan: An Interview with Brigadier General Avigdor Kahalani, Israeli Defense Forces," *Military Review* 59, no. 10 (October 1979): 13.

Although TRADOC would contest much of this criticism, claiming that the critics' characterizations were inaccurate or taken out of the broader context,²⁶⁴ the 1976 version of FM 100-5 nevertheless served several important functions. For one, it provided the Army of the mid-1970s with a clear, concrete statement of how to fight—a clarion call for a return to the fundamental skills required for an army to compete on the modern, mid-intensity battlefield. In so doing, it announced to the institution that it had enormous work to do in order to regain and sustain the necessary levels of tactical and technical proficiency. Additionally, the new doctrine also generated an important, urgent, and focused dialogue within and outside of the Army. In his review of FM 100-5, Loomis presciently stated that the manual's "major importance flows from its potential for precipitating a strategic debate of major proportions," replacing the focus on Vietnam, which had been the central security issue of the 1960s and early 1970s.²⁶⁵ Not only would the manual serve as the catalyst for reconsidering the strategic priorities of the United States and its NATO allies, but it would also drive discussions about the nature of the specific military problems with which they were confronted as well as the doctrinal solutions required to meet these challenges. Simply put, the 1976 version of FM 100-5 inspired an ambition to fight in a certain way: an offensively-oriented war of maneuver in which the Army was not merely surviving and preventing the enemy from achieving its

²⁶⁴ See for example, "TRADOC's Reply," *Armed Forces Journal* 114, no. 2 (October 1976): 27. In response to the critics' claims of the manual's defensive bias, TRADOC responded, "the manual is clear that offensive action is the preferred form of combat, and advocates bold maneuver in conjunction with both the offense and the defense." Quoted and discussed in Romjue, *From Active Defense to AirLand Battle*, 14.

²⁶⁵ Loomis, 69.

objectives, but becoming a force capable of attacking and winning. The lethality, intensity, and density of modern war with its attendant risks required a thinking, well trained, and professional army. Yet the Army was not ready for the more advanced forms of warfare to which it aspired. The 1976 version of FM 100-5, despite its defects, was thus arguably the most appropriate doctrine for the reforming Army of the mid-1970s; before tackling the harder, more advanced concepts of modern war, the Army first had to fix and master its tactics and modernize its aging weapon systems.

Implementation Mechanisms

Given this study's focus on operational risk, the Army's efforts to operationalize its evolving doctrine through concurrent changes in its training, education, leader development, and equipment merit consideration for two reasons. On the one hand, these parallel reforms provided the Army's elements in the field with the warfighting proficiency and tools—and thus the confidence—that they needed to fight against the Warsaw Pact in Central Europe. As discussed in chapter 3, the IDF's ability to engage uncertainty and take risks at the operational level were built on a foundation of tactical proficiency. In setting conditions to gain and sustain similar proficiency, the U.S. Army provided itself an opportunity to think about the more abstract, conceptual challenges of modern war.²⁶⁶ However, the quantitative, immediate focus of many of these reforms and

²⁶⁶ A decade after his retirement, Starry would claim that, as early as 1974, the evidence from the 1973 Arab-Israeli War “served to illuminate the follow-on echelon problem. But there was no immediate solution, technically or operationally, and tactically there was much work to do. So we started with that.” See Starry, letter to Dr. Richard Swain, U.S. Army School of Advanced Military Studies, Fort Leavenworth, KS, 7 June 1995, 10.

modernization programs also played to the Army's managerial and corporatist tendencies.²⁶⁷ The ability to measure readiness and to develop and employ cutting-edge technologies to see further and more accurately, communicate more rapidly, and kill with greater power and precision appealed to the Army's thirst for control and its desire to eliminate uncertainty on the battlefield. Such aspirations and the illusion of control that they engendered would work to strengthen the Army's institutional risk aversion at the same time its doctrine was evolving to embrace the play of chance in combat.

Training Reforms

Over the course of his tenure as the Commanding General of TRADOC (1973-1977), DePuy and his Deputy Chief of Staff for Training, Major General Paul F. Gorman, drove a series of reforms that dramatically transformed the Army's approach to training. Within the first year of the formation of TRADOC and the U.S. Army Forces Command, senior Army commanders began to express increased concern over the readiness of their combat formations to meet the challenges of the mid-intensity battlefield; these concerns were given increased urgency by the evidence that emerged from the Army's comprehensive study of the 1973 Arab-Israeli War. In January 1974, General Walter T. Kerwin, the U.S. Army Forces Command commander, sent a worried message to the commanders of all the corps and divisions under his command as well as to DePuy and TRADOC's combat-arms school commanders. In this message, Kerwin lamented the

²⁶⁷ On the U.S. Army's penchants, culturally and historically, towards management and control, see for example, Richard A. Gabriel and Paul L. Savage, *Crisis in Command: Mismanagement in the Army* (New York: Hill and Wang, 1990), 11-19; Uzi Ben-Shalom and Eitan Shamir, "Mission Command Between Theory and Practice: The Case of the IDF," *Defense and Security Analysis* 27, no. 2 (February 2011): 104.

poor state of the Army's mechanized-fighting readiness: "The basic purpose of a tank is to shoot and shoot well. In too many of the U.S. Army Forces Command tank units, the personnel status and gunnery training to accomplish that purpose are not being met."²⁶⁸ Kerwin's concerns addressed the twin pillars of readiness: personnel available and the proficiency to which they were trained at the individual and collective levels. DePuy and Kerwin collaboratively developed a hasty plan in response to these concerns. In their plan, they outlined a program to create, train, and maintain "master gunners" within all U.S. Army Forces Command units.²⁶⁹ Although master gunners would facilitate the development and maintenance of combined-arms expertise within the Army's operational elements, it was also clear that this plan was intended more as a band aid to staunch the flow of blood from a wound that really needed to be cauterized and ultimately rehabilitated.

The Army required a more analytically rigorous, comprehensive, and focused approach to training and readiness. Gorman was convinced that readiness could be measured and that the Army needed to take a systems approach to understand and improve all of the interdependent components that influenced it.²⁷⁰ He believed that data

²⁶⁸ General Walter T. Kerwin, "Kerwin Sends: Tank Gunnery Training," message to FORSCOM and TRADOC Commanders, 4 January 1974, Starry Papers, Box 2, Folder 7.

²⁶⁹ Generals William E. DePuy and Walter T. Kerwin, untitled eyes only back-channel message to General Creighton Abrams, dated 15 March 1974, Starry Papers, Box 2, Folder 9.

²⁷⁰ Although not a school-trained Operations Research and Systems Analyst, Gorman deployed many of the discipline's methods in his approach to training and readiness. He attributed his employment of these methodologies to his experiences as a staff officer in the Pentagon in the 1960s and while serving as the G-3 for the detail-

concerning variables as diverse as crew turbulence, vision profiles, and gunnery performance could be analyzed and correlated to an organization's readiness to perform its given mission on the modern battlefield. In 1976, after analyzing these data sets, he drew a grim conclusion: "We're an Army of neophytes!"²⁷¹ To address this reality, the Army would enact considerable reforms in its training program over the next decade.

Although a full accounting of the subsequent training reforms exceeds the scope of this study, a brief summary of these efforts is necessary to understand the direction in which the Army was headed for the next generation and their impact on the Army's understanding of and relationship with risk.²⁷² Because the Warsaw Pact possessed quantitative superiority and, in some areas of doctrine and materiel, qualitative superiority, the U.S. Army needed to gain and constantly maintain high levels of readiness; its operational elements had to be ready to fight tomorrow, not six months down the road. Thus, TRADOC had to evolve the Army Training Program from one designed for the now obsolete mass-mobilization system to one optimized for a smaller, all-volunteer, professional army. In response, DePuy and Gorman replaced the older

oriented DePuy with the 1st Infantry Division in Vietnam. See Gorman, *Cardinal Point*, 66-67.

²⁷¹ Major General Paul F. Gorman, "'Real' Readiness," Speech to the U.S. Army Command and General Staff College Officers' Symposium on Officer Responsibility, 7 April 1976, accessed 4 April 2016, http://usacac.army.mil/cac2/CSI/docs/Gorman/03_DCST_1973_77/15_76_CGSC_RealReadiness_Apr.pdf.

²⁷² For an excellent summary of these reforms, see Anne W. Chapman, *The Army's Training Revolution, 1973-1990: An Overview* (Fort Monroe, VA: U.S. Army Training and Doctrine Command, 1994), 3-10. The summary that follows is largely derived from Chapman's narrative, expanded, as required, by additional secondary sources and supplemented with illustrative primary-source materials.

model, one that dictated the subjects to be taught and the numbers of hours that soldiers and units had to be exposed to training, with an event-oriented system based on achieving clear performance standards.

Central to these reforms was the employment of a training development and implementation process known as the “systems approach to training.”²⁷³ This holistic, scientific approach valued quantitative analytics; readiness, in the view of TRADOC’s leadership, could and should be measured and continuously monitored. The DePuy-Gorman training reforms found their clearest and most significant expression in the development and publication of two complementary programs: the Army Training and Evaluation Program and the Skill Qualification Test. Both provided the Army’s operational elements with performance-based systems for the design, execution, and evaluation of training at the collective and individual levels, respectively.

Additionally, the Army of the mid-1970s lacked the ability to conduct and evaluate combined-arms training with sufficient battlefield realism at the battalion and brigade levels. In response, Gorman began to lay the foundation for the development of the NTC. He sought to provide an Army-level facility with the requisite space to replicate the tempo and weapons-engagement ranges of the modern battlefield as well as to provide the cadre and range instrumentation to objectively evaluate a unit’s performance

²⁷³ In January 1975, TRADOC widely disseminated Gorman’s “ORSA and Training-The Systems Approach” paper following his delivery of it during the December 1974 TRADOC Commander’s Conference; see Gorman, “ORSA and Training,” enclosure 3 to Memorandum for Record, 16 January 1975, Starry Papers, Box 3, Folder 6. The covering memorandum described the paper as “a conceptual methodology that can be used to describe an approach to training effectiveness. It is not an all-inclusive method for attacking training effectiveness problems, however, it may be helpful in describing an approach to be used.”

against a capable opposing force.²⁷⁴ Gorman's efforts, aided further by Starry during his tenure as TRADOC commander,²⁷⁵ would come to fruition in 1980 with the establishment of the NTC at Fort Irwin, California. Unit rotations would begin the following year, and the NTC would hit its full stride by the late 1980s, a period during which units viewed their annual rotation as the driving force behind and culmination event for their long-range training plans.²⁷⁶

When looking at the impact of these training reforms as a whole, several important trends emerge that must be considered to appreciate the Army's understanding of and relationship with operational risk. The same pathology for information and emphasis on quantitative analytic techniques that had emerged during the Vietnam War and had largely dominated the initial lesson-learning methodologies employed in the

²⁷⁴ In 1976, in response to then-Chief of Staff of the Army General Bernard Rogers's call for the Army to designate a central facility with sufficient space as the NTC, Gorman wrote a seminal paper in which he outlined the concept that would be implemented in the coming four years. In this paper, Gorman drew on the model provided by the U.S. Air Force's Tactical Air Command, whose Red Flag culmination exercises employed dedicated opposing forces (aggressor squadrons), multi-threat and instrumented ranges, as well as standing, expert cadre to evaluate the rotating unit's performance. See Major General Paul F. Gorman, "Toward a Combined Arms Training Center," White paper, November 1976, accessed 4 April 2016, usacac.army.mil/cac2/CSI/docs/Gorman/03_DCST_1973_77/26_76_NTC_CombinedArmsTng_Nov.pdf.

²⁷⁵ See for example, Headquarters, TRADOC, "Fact Sheet," for General Donn A. Starry, 29 February 1980, Starry Papers, Box 20, Folder 1; this fact sheet documents Starry's ongoing and close interest in ensuring the evolving NTC was equipped with the highest quality instrumentation in advance of the first unit rotations the following year.

²⁷⁶ For a brief summary of the creation and maturation of the NTC, see Anne W. Chapman, "National Training Center," in *A History of Innovation: U.S. Army Adaptation in War and Peace*, ed. Jon T. Hoffman (Washington, DC: The Center for Military History, 2009), 147-154. For a more comprehensive discussion on the NTC once it hit its stride, see Anne W. Chapman, *The National Training Center Matures, 1985-1993* (Fort Monroe, VA: U.S. Army Training and Doctrine Command, 1997).

study of the 1973 Arab-Israeli War now governed the Army's new approach to training. On the one hand, the emerging ability to quantify a given unit's readiness afforded commanders greater confidence in the tactical and technical proficiency of their organizations. On the other hand, the ability to measure one's readiness also seemed to imply that one could quantify or probabilistically determine one's likelihood of success in combat. Much like the principles of the Active Defense doctrine, the Army's new approach to training sought to crush out uncertainty, avoid the play of chance and risk, and impose maximum control on the course of a unit's development. Moreover, the new compliance mechanisms, most notably the Army Training and Evaluation Programs, Skill Qualification Tests, and NTC rotations, could, in the hands of an unimaginative commander, reward the technician over the innovator and create a "checklist" approach to training.²⁷⁷ Such an approach would be inconsistent with the imagination, resourcefulness, and willingness to dare required to fight and win within the fluid, uncertain environment of the modern battlefield. These programs could also create opportunity for confirmation bias with linear technical solutions against complex adaptive problems.²⁷⁸

Education and Leader Development

The focus on training came at the expense of professional military education. Upon his return from Israel in late summer 1976, DePuy was explicit about the relative roles of training and education in his letter to then-CSA, General Fred Weyand:

²⁷⁷ The reference to "compliance" mechanisms is from Kretchik, 201.

²⁷⁸ Preston Cline, telephone conversation with author, 29 April 2016.

It may be appropriate at this point to emphasize that the Israeli Army trains its soldiers, sergeants, and officers. It does not educate them. There are no frills. In the officer's course 70% of the instruction is in the field in a unit with weapons and equipment. This is true even though their officers have *not* been to college or a university. They are, on the average, 19 years old. College comes after service as a lieutenant.²⁷⁹

However, these views were inconsistent with those held by the Commander of TRADOC's CAC, Major General John Cushman, a man whose intellectual outlook, personality, and background stood in stark contrast to those of DePuy. While Cushman acknowledged and embraced the importance of readiness, he believed junior officers needed to play active roles in the Army's "controlled, intelligent adaptation."²⁸⁰ To do so, they would have to challenge themselves to consider problems from the perspective of senior commanders and then actively engage in framing and solving the problems that they helped to identify. This, in his view, required intellectual preparation only possible through a more expansive approach to education.²⁸¹ Cushman not only failed to have his thinking influence the development of the 1976 version of FM 100-5, but also failed to

²⁷⁹ General William E. DePuy, letter to General Fred Weyand, 18 August 1976, 1973 War Collection, Box 8, 3; emphasis in the original.

²⁸⁰ Major General John Cushman, "Commandant's Welcome to Regular Class," Speech Script to the U.S. Army Command and General Staff College, Class of 1973-1974, 15 August 1973, DePuy Papers, Box 5, Folder C. Cushman provided a copy of this speech to DePuy two days later; in the cover letter, he explained that he was passing it along as "an indication of [his] outlook, not only as to the College instructional mission, but as to the combined instructional/doctrinal/combat developments mission of [CAC] as well."

²⁸¹ Ibid.

convince DePuy that the Army's schools should educate officers as much as they endeavored to train them.²⁸²

DePuy wanted the Army's schools to prepare officers to be expert in their next job, not for higher levels of responsibility deep into the future.²⁸³ Nowhere was this more obvious than in the instructional methods of the U.S. Army CGSC, where, as historian Brian Linn has argued, "from the mid-1970s until the end of the Cold War, the Army's new version of modern warfare was taught, or perhaps more accurately, indoctrinated."²⁸⁴ DePuy lamented and actively worked to reduce the degree to which the Army's school system incorporated more ethereal and conceptual topics into its curricula. In his view, the infantry basic course needed to "teach the construction of defensive positions" not subjects such as "leadership, management, and motivation." Similarly, the war colleges (over which he did not have direct control) needed to "train brigade, division, and corps commanders" rather than focus their academic efforts at the "political-military level."²⁸⁵

²⁸² Herbert, 52-56.

²⁸³ Even after he retired, DePuy remained adamant about the priority he gave to training: "I would say that reorienting the school system so that it had a larger training as opposed to educational aspect to it . . . [was] very important . . . There are those who feel that was a mistake, and there are those who feel that we should educate officers and train soldiers. I think that is wrong. I think you should train a man for the job he is going to perform, and then you can educate him so that the intellectual and moral environment in which he pursues his particular job will be enhanced." See Brownlee and Mullen, III, 186.

²⁸⁴ Linn, 211.

²⁸⁵ General William E. DePuy, letter to General (Retired) Bruce Clark, 18 August 1976, DePuy Papers, Box 9, letters to/from General Clarke folder.

DePuy's approach to the relative values of training and education also influenced his thinking about leader development. In his 1976 letter to Weyand describing his trip to Israel, DePuy marveled at the IDF's system for selecting and developing leaders. In his view, the IDF's combat-arms commanders and leaders emerged only after having successfully navigated a ruthless assessment and selection system and proven themselves worthy in combat: "Real authority stems from the general recognition that leaders have earned and demonstrated their right to lead—they are not merely appointed."²⁸⁶ By 1977, largely through TRADOC's approach to training and education, DePuy had put his stamp on institutional leader development; leaders were to be trained, with an emphasis on technical and tactical proficiency. The intrusion, over the previous decade, of educational topics in management science, behavioral science, and other academic electives seemed less relevant to the demands of the modern battlefield and thus significantly curtailed.²⁸⁷

While DePuy's influence on the Army's evolving approach to education and leader development was not monolithic, it constrained the development of the officers' corps abilities to think in more abstract, conceptual ways at higher, non-tactical levels. The ability to prepare for and conceptualize risk at the operational level of war requires officers to be able to frame and solve problems, often enshrouded in uncertainty, in environments where they are unable to directly observe and influence the actions of subordinate units. DePuy's approach to education and leader development sought to produce tactically competent, combat-proven leaders, who could dig (or directly

²⁸⁶ DePuy, letter to General Weyand, 2.

²⁸⁷ General William E. DePuy, letter to General Bernard Rogers, 10 May 1977, DePuy Papers, Correspondence, 1973-1977 Folder.

supervise the construction of) to-standard fighting positions and qualify expert in Table VIII tank gunnery evaluations. These men would be commanders capable of controlling and synchronizing everything they could touch and see; however, these men would also be very uncomfortable with activities outside their immediate purview and thus with risk and the play of chance and friction.

Equipment Modernization

A final area of reform and modernization developed and implemented during DePuy's tenure as TRADOC commander that would significantly influence the Army's culture for the next generation, and thus its understanding of and relationship with risk, was materiel development. By design, TRADOC had acquired the Army's combat developments function from the discontinued U.S. Army Combat Developments Command during the 1973 STEADFAST reorganization. The merger integrated this effort into a command that also possessed the responsibilities for developing new organizations and doctrine for forces in the field. Materiel development was a joint effort between TRADOC (combat developer) and the U.S. Army Materiel Command (materiel development). In order to ensure an "integrated systematic approach" to materiel development, TRADOC implemented the concept of the total weapons system, which pivoted on the efforts of TRADOC's system managers and their Army Materiel Command counterparts (project managers).²⁸⁸

²⁸⁸ Anne W. Chapman, Carol J. Lilly, John L. Romjue, and Susan Canedy, *Prepare the Army for War: A Historical Overview of the Army Training and Doctrine Command, 1973-1998* (Fort Monroe, VA: U.S. Army Training and Doctrine Command, 1998), 37-40.

The 1973 Arab-Israeli War had vividly illuminated the “new lethality” of rapidly evolving precision-guided weapons, tanks, infantry-fighting vehicles, integrated air-defense systems, and electronic-warfare technologies. In order to gain and maintain a qualitative advantage against the Warsaw Pact, the U.S. Army required a new generation of major combat systems.²⁸⁹ The literature of this period often emphasizes the importance of the “Big Five” (the M1 Abrams tank, UH-60 Blackhawk helicopter, AH-64 Apache helicopter, the Patriot air defense missile system, and M2/3 Bradley fighting vehicle), but there were also considerable efforts to modernize the Army’s command, control, communications, and intelligence systems.²⁹⁰ Ironically, the “Big Five” systems were not fully operationalized until the late 1980s since all went over-budget and experienced significant problems throughout the procurement process.²⁹¹

With respect to advances in its command, control, communications, and intelligence systems, the Army sought advantages in both offensive and defensive electronic warfare; the means by which to see farther and more accurately through improved sensor technology; and the ability to push and pull both data and voice communications more rapidly, more securely, and over longer distances. During this period of rapid technological change and doctrinal ferment, Majors Robert Doughty and

²⁸⁹ For a precise overview of the equipment developed for the Army during the 1970s and 1980s, see Chapman et al., 40-45.

²⁹⁰ See for example, Guy Hartcup, *The Silent Revolution: The Development of Conventional Weapons, 1945-85* (London: Brassey’s, 1993), 109-168; Robert H. Scales, Jr., *Certain Victory: The U.S. Army in the Gulf War* (Washington, DC: Potomac Books, 2006), 19-20.

²⁹¹ Linn, 205.

Leonard D. Holder attempted to describe the changing technological landscape through a framework consisting of the elements of battle (firepower, mobility, protection, and communications and reconnaissance) as well as what they called battle’s “unchanging functions” (finding, fixing, fighting, and finishing the enemy). They sought to project a more cogent understanding of the future battlefield. While they marveled at improvements in technologies enabling greater mobility, lethality, and survivability, they made clear that advances in command, control, communications, and intelligence technologies were potentially revolutionary: “Electronic advancements in reconnaissance are almost mind-boggling. Future commanders may have the ability to know exactly what is to their front . . . Emerging reconnaissance and detection devices and new means of processing information into intelligence promise greater success in finding the enemy.”²⁹²

Throughout the late 1970s and early 1980s, various U.S. governmental agencies conducted cutting-edge applied research with the aim of integrating the emerging precision-guided munitions and sensor technologies into a more cohesive system to strike deeply into the advancing echelons of the Warsaw Pact—with the potential for strategic effects. What started as a Defense Advanced Research Project Agency project culminated in the so-called “Assault Breaker” proof of concept at White Sands Missile Range in 1982. The success of these tests fomented panic amongst U.S. adversaries; Andrew Marshall and his Office of Net Assessment observed that leading Soviet military theorists

²⁹² Major Robert A. Doughty and Major Leonard D. Holder, “Images of the Future Battlefield,” *Military Review* 57, no. 1 (January 1978): 56-69.

were worriedly referring to the evolving deep-strike technologies of the United States as a “reconnaissance strike complex.”²⁹³

DePuy and Starry remained clear-eyed about the role of technology as the post-Vietnam Army continued to reform. For both, technology was a formidably important modernization variable; one that offered potentially decisive advantages to both friendly and enemy forces, but one that had to be considered within a more holistic context comprising doctrine, training, education, and organizational elements.²⁹⁴ However, at times, the allure of these unprecedented—and often seemingly revolutionary—technologies promised to lift the fog of war, reducing the complexities, risks, and uncertainties of combat to a sophisticated math problem. Taken to an extreme, especially for an army endeavoring to eliminate battlefield uncertainty, these technologies had the potential to create the illusion of control. Fortunately, Starry viewed the power and role of technology more skeptically than had DePuy. He acknowledged that: “It is part of an American psyche to presume that technology is going to win everything . . . [but] technology wins us nothing unless it serves some doctrinal purpose.”²⁹⁵ Starry’s

²⁹³ For a summary of these efforts and their impact on the Army’s doctrinal developments, see Jensen, 73-74.

²⁹⁴ DePuy viewed that one of TRADOC’s three most significant roles was “bringing combat development forward into the world of today’s technology and getting it out of the vague distant future, while systematizing TRADOC’s involvement in weapons systems acquisition;” see Brownlee and Mullen, III, 189.

²⁹⁵ Starry aggressively pursued advanced technologies during his tenures as commandant of the Armor School and commanding general of TRADOC, but he remained skeptical of the procurement process, believing that those responsible for materiel development (especially those conducting the advanced basic and applied research) often worked in a vacuum divorced from the operational context. See John L.

experiences as the commanding general of V Corps in Europe would prove instrumental to the continued evolution of the Army's capstone doctrine, and thus his balanced appreciation for the role of technology, especially during a period of such dramatic enhancements, would help the Army keep the potential and promise of these new technologies in perspective.

The Collision of Theory and Practice: The Incongruity of Active Defense with the Realities of the Modern Battlefield

Starry left his position as the commandant of the Armor School in 1976 and assumed command of V Corps, one of two U.S. Army corps stationed in the Federal Republic of Germany. He now had the opportunity to implement the new doctrine in whose design he had just played such a central role and against the problem set for which the doctrine had been designed. This was a responsibility he took extremely seriously.

Starry was, in many ways, the ideal leader to grapple with this challenge. He was intellectually rigorous, a master tactician, and open-minded. Moreover, he was an officer thoroughly committed to framing and solving first-order problems. Years after he retired, an interviewer asked Starry to describe the most important leadership lesson from his long career. In response, he recalled an engagement with then-Lieutenant Colonel Creighton Abrams, his first battalion commander, during which he received a "first-rate ass-chewing" for only providing an assessment of a problem without a proposed solution. Reflecting on the experience, Starry explained that, as a leader, he had the responsibility to "keep [his] mouth shut about problems until [he had] worked up a better solution.

Romjue, "Development of Doctrine," transcript of oral history interview with General Donn A. Starry, 19 March 1993; reproduced in Sorley, vol. 2, 1271-1272.

Never criticize the way things are unless you can also say how they should be.”²⁹⁶ He neither resided completely within the realm of abstract theory and concepts nor exclusively in the arena of muddy-boots practical application; he was drawn to the space where they intersected. In the immediate aftermath of the publication of FM 100-5, Starry was annoyed by many of the criticisms, considering them uninformed and unnecessarily polemical (agitated in part by influential officers and civilians at Fort Leavenworth, whom DePuy had cut out of the writing process).²⁹⁷ Starry had personally written many of the manual’s pivotal chapters, including those on the offense and defense, and thus felt compelled to attempt their implementation before crying foul.²⁹⁸

Upon his arrival in West Germany, Starry asked DePuy to send forward several hundred copies of the new FM 100-5.²⁹⁹ Thereafter, he immediately instructed his subordinate commanders to design and implement their battle plans in accordance with the principles of “Active Defense.” He made them walk the terrain, figuring out where

²⁹⁶ Lieutenant Colonel Charles G. Cavanaugh, Jr., “This Is Tough Business,” *Soldiers* magazine interview with General Donn A. Starry, October 1985; reproduced in Sorley, vol. 2, 1222.

²⁹⁷ Even years after his retirement, the virulence of much of the initial criticism of the 1976 version of FM 100-5 stung Starry. He accused Lind of being “Senator Gary Hart’s gadfly” and was convinced he had not “even read the damn thing in any detail.” Moreover, Starry was also convinced that much of the opposition to the manual was generated by the dissatisfied leadership at Fort Leavenworth, Kansas who, as a result of their opposition to the Active Defense, had been largely eliminated from the writing process. See Spruill and Vernon, 266-267.

²⁹⁸ Major General Donn A. Starry, letter to Major Wilder M. Snodgrass, 25 November 1975, Starry Papers, Box 3, Folder 12, 1.

²⁹⁹ Starry assumed command of V Corps in February 1976, but, once he knew that General Weyand had approved the final draft, he was able to acquire and disseminate advanced copies before its formal publication in July 1976.

and how they would site their weapons, concentrate their fires, and establish their forward security zones. Starry was ruthless in his implementation of the new doctrine. Early on, a brigade commander resisted his guidance, claiming that the already-approved manual would be rejected by the CSA; Starry relieved him on the spot and sent a strong message to his Corps: “I am telling you as the corps commander that this is the way we’re going to fight the war here until somebody tells us not to.”³⁰⁰

In a regular series of missives, called “Commander’s Notes,” Starry sought to “convey to subordinate commands [his] philosophy of command, operations, and management, relating to subjects ranging from tactics, to administration, to community affairs.”³⁰¹ In his first “Commander’s Note” after formally establishing the system, Starry provided his guidance on the role of command, control, and management in support of operations and training. Returning to a favorite theme, which he had addressed in a “Commander’s Hatch” column while commandant of the Armor School, Starry defined and explained how to operationalize the use of mission-type orders and decentralization. He defined decentralization as the “delegation of responsibility and authority for executing a mission to the lowest level of command which has, or to which can be made available, the requisite resources to accomplish the mission,” and noted that decentralization was part of the broader concept of mission-type orders in which commanders provided their subordinates with the “what” of the mission (i.e., what to do,

³⁰⁰ Spruill and Vernon, 263-264.

³⁰¹ Lieutenant General Donn A. Starry, “Commander’s Notes, No. 1: The System,” 30 April 1976, Starry Papers, Box 59, Folder 1.

what not to do, and with what resources to do it), while actively avoiding prescribing the “how.”³⁰²

As discussed in chapter 4, Starry held very strong views about decentralization; he believed it was the means by which the most effective organizations structured their command and control systems, but that, in order to do so well, the organization and its leaders first had to demonstrate competency. After returning from his second tour in Vietnam in 1970, he had the chance to tour the Army elements in West Germany and engage their commanders. He assessed that the Army of this period lacked the proficiency to decentralize in an appropriate fashion. Commanders erroneously delegated responsibilities and authorities to subordinates who had neither the resources nor experience to accomplish the mission. Thus, to illustrate what he meant by decentralization, his next “Commander’s Note” applied his thinking through the lens of training management. In the longest “Commander’s Note” of his tenure as the V Corps commander (fifteen pages), he laid out an example of an entire battalion-level annual training plan, but made clear that he did not expect his battalion commanders to just simply adopt this model: “Commanders are encouraged to analyze their peculiar training environment and develop a program which meets their needs.”³⁰³ Starry’s intent was two-fold. On the one hand, he wanted to illustrate how he expected his commanders to

³⁰² Lieutenant General Donn A. Starry, “Commander’s Notes, No. 2: Operations and Training—Command, Control, and Management,” 3 May 1976, Starry Papers, Box 59, Folder 1.

³⁰³ Lieutenant General Donn A. Starry, “Commander’s Notes, No. 3: Operations and Training—The Management of Training,” 5 October 1976, Starry Papers, Box 59, Folder 1.

operationalize both the new doctrine and the Army's evolving, performance-oriented approach to individual and collective training. On the other hand, he wanted to make clear that he expected his commanders to think critically and remain actively engaged in assessing their environment, mission, and organization—and then to plan accordingly.

For an Army still rehabilitating itself and processing the new doctrine, thinking through its training in this way would thus prepare the corps, as a whole, to fight against the complex problem with which they were confronted in Europe. Starry made his subordinate division and brigade commanders develop, rehearse, and back-brief detailed plans for how they would defend against an attack by the Warsaw Pact. Starry was not a micro-manager, but he understood that for Active Defense to work, commanders at all echelons had to understand the doctrine and then train their organizations to fight in accordance with its precepts. As the corps commander, he understood that he had to set and articulate clear priorities and then reinforce them through his personal behavior and presence.

Although Starry's initial efforts to operationalize the new doctrine were frustrating and he had to use his positional power often to overcome stubborn resistance within his organization, his intent eventually gained traction. As the leaders in V Corps continued to refine the full scope of their defensive plans, their confidence began to soar. During one such terrain walk in 3rd Armored Division's sector, Starry recalled a brigade commander telling him that "You know, General, I think we've won the damn battle." Starry remembered feeling pride in the Corps and the work they had done to earn such confidence: "All I did was take [them] out there and make [them] work out the equation.

They convinced themselves that they were going to win.”³⁰⁴ After having overcome the resistance internal to his organization, Starry was finally in a position to fully operationalize the doctrine and then to assess if it effectively countered the problem for which it had been designed. As he composed a more comprehensive defensive scheme, the first doctrinal deficiency he observed was its failure to address the dramatic difference between the responsibilities of commanders of divisions and below and those of corps and higher. Command at higher echelons required a decidedly different perspective, planning horizon, and sense of depth and complexity than for those at the tactical level. In response, he crafted a narrative that he originally called the “Corps Battle,” which he shaped through rigorous battlefield calculus and the employment of a target-servicing methodology.³⁰⁵

By the spring of 1977, Starry was able to visualize in detail V Corps’s defense of the Fulda Gap. Central to this understanding was his disciplined analysis of the terrain as well as the strength, capabilities, and respective doctrines of both friendly and enemy forces. Based on these variables, Starry envisioned the Soviets being able to pour up to six first-echelon divisions along one of three available avenues of approach while employing two possible attack-formation geometries (march to contact or break-through).

³⁰⁴ Spruill and Vernon, 263-264.

³⁰⁵ Spruill and Vernon, 263-265. See also, Lieutenant General Donn A. Starry, “Tank Duel Analysis,” letter to Bryant Dunetz, Ballistic Research Lab, 23 August 1976; reproduced in Sorley, vol. 1, 58-59. In the former source, Starry explained that, since assuming command, V Corps had “spent a considerable amount of time trying to model the Corps Battle. To do that we have used the target servicing concept. That is, how many targets of what kind and in what deployment appear within range of a set of defending systems and in what time sequencing; what systems are there to service them; and can the job be done before they close with the defending systems.”

Opposing this attack was his V Corps, organized into two maneuver divisions, an armored cavalry regiment, two general-support artillery groups, an engineer brigade, and a support command, comprising a total strength of 71,000 soldiers, 700 tanks, 1,200 plus infantry fighting vehicles, sixty attack helicopters, and 300 artillery pieces. Yet, V Corps was outnumbered at a ratio of at least two to one with respect to almost every measurable element of combat power.³⁰⁶

Starry disposed his corps into three zones: a covering force area, a main battle area, and a rear area. The covering force, occupying a zone ten to fifteen kilometers deep and comprising eight battalion-sized task forces under the command of the armored cavalry regiment, would defend (vice delay); its key tasks included “forc[ing] the enemy into revealing the strength and general location of his main attack,” preventing the enemy from discovering the disposition and intent of friendly forces, and disrupting the continuity of the enemy’s (mobile) air defense umbrella.³⁰⁷ In the main battle area, the two maneuver divisions were to be arrayed in depth in a zone of up to forty kilometers within brigade battle areas and battalion battle positions. Notably, there was no large, centrally located reserve. According to Starry, “this [was] deliberate, and it [was] perhaps the most significant difference between the active defense and other defensive concepts.”

³⁰⁶ Lieutenant General Donn A. Starry, “The Corps Battle,” letter to Major General J.W. Stanier, Commandant, United Kingdom Staff College, 18 April 1977, Starry Papers, Box 60, Folder B, 1-4. With respect to the Soviet artillery advantage, Starry would later amend the ratio in favor of the Soviets up to 5 to 1, given their ready access to multiple-rocket launchers and thus the ability to throw a considerably greater “weight of ammunition;” see Lieutenant General Donn A. Starry, “The Corps Battle,” briefing script, 12 June 1977, Starry Papers, Box 60, Folder 7, 9.

³⁰⁷ Lieutenant General Donn A. Starry, “The Corps Battle,” briefing script, 12 June 1977, Starry Papers, Box 60, Folder 7, 5-6.

Given the proliferation of sophisticated weapons technologies and the intensity of modern battle, “deployment and employment of large reserves becomes most difficult. Therefore, the active defense relies on the depth of the battle areas, and on the ability to concentrate quickly over shorter distances into positions which have been thoroughly developed.”³⁰⁸

Starry acknowledged that while “attack is a vital part of the active defense” and that friendly forces “must attack to seize the initiative,” these attacks would have to be conducted in a “rapier-like” fashion so that friendly forces would have the chance to quickly regain the advantages afforded the defender—especially before the “next attacking echelon [could take] the field.”³⁰⁹ Moreover, Starry framed the details of his defensive plans according to an analysis of opposing rates of march and fire backed-dropped against terrain considerations such as inter-visibility ranges. This calculus employed target-servicing concepts that enabled commanders at all echelons to “determine what forces [they would] need and how [they] will fight.”³¹⁰

However, even if the principles of Active Defense were expertly executed, several disconcerting incongruities confronted Starry between what the new doctrine offered and the actual battlefield demanded. Simply put, the new doctrine might not afford the friendly defenders sufficient combat power to counter the follow-on echelons of the Soviet attackers; by the time they destroyed the first wave of enemy divisions, the

³⁰⁸ Ibid., 5-6.

³⁰⁹ Lieutenant General Donn A. Starry, “The Corps Battle,” briefing script, 7-8.

³¹⁰ Ibid.

American weapons systems would be completely depleted. Second, as discussed above, given the limited, localized nature of the defending force's counterattacks, there was no real opportunity to gain, maintain, and exploit the initiative over the course of the fight.

Starry was convinced that the "outnumbered side wins more often than not; and that in the end victory in battle is not determined by numbers at all, but by the courage of soldiers, the quality of leadership, and the excellence of training in the use of military equipment and tactical schemes devised for its employment."³¹¹ Nonetheless, he was beginning to sense the insufficiency of the doctrine for the problem with which he was confronted.³¹² Moreover, he began to express interest in exploiting the uncertainty of battle in favor of the friendly forces. Specifically, he wanted his forces to engage the Soviets in a way that convinced them that they were "on the horns of a dilemma"—unable to achieve their objectives at the tempo demanded by their political leadership and doctrine. Starry explained that "it's in that uncertain frame of mind that we would like to meet him out there some morning when the war begins."³¹³

In the course of trying to figure out how to operationalize the Army's new doctrine, Starry re-engaged the lessons of the 1973 Arab-Israeli War. While Starry originally viewed the primary value of that conflict as a rhetorical device to build consensus behind the doctrinal, training, and materiel reforms that TRADOC's leadership

³¹¹ Ibid., 12.

³¹² Spruill and Vernon, 265.

³¹³ Starry, "The Corps Battle," briefing script, 10.

had previously conceived, he now saw the lessons of the war as being able to illuminate potential solutions to the intractable problems he confronted as a corps commander.³¹⁴

During the course of his first visit to Israel in April 1974, Starry had the opportunity to walk the terrain of the Golan Heights and talk with Brigadier General Musa Peled, whose 146th Armored Division had spearheaded the critical counterattack against the Syrian penetration on the third day of the fighting. Peled subsequently assumed command of the IDF's Armored Corps (the equivalent of the U.S. Army's Armor School and Center), and thus maintained a close relationship with Starry over the intervening years.³¹⁵ Back in 1975, while helping to write FM 100-5, Starry claimed he could sense the doctrine's inadequacy for dealing with the problem of the Warsaw Pact's follow-on echelons, but that he just "wasn't quite sure how to solve it."³¹⁶

In February 1977, Peled was visiting Starry in Germany when a full division of the Soviet 8th Guards Combined Arms Army deployed under cover of fog and strict radio silence to the border along the Fulda Gap, further dramatizing the magnitude of the follow-on echelon problem confronting V Corps. Three months later, Starry accepted Peled's invitation to visit Israel, and they again walked the terrain of Peled's counterattack during the 1973 Arab-Israeli War. During this terrain walk, Starry

³¹⁴ Bronfeld, 465-498.

³¹⁵ Starry maintained close and regular contact not only with Peled, but also with Major General Israel Tal, who was the IDF deputy chief of staff during the 1973 War and later the father of the Merkava tank in retirement, as well as Major General Avraham Adan, the commander of the 162nd Reserve Armored Division in 1973 and later the IDF attaché to the Pentagon. Spruill and Vernon, 239.

³¹⁶ Spruill and Vernon, 265.

attempted to “transpose what [Peled] was describing onto V Corps terrain east from the Vogelsburg to the Thuringerwald in East Germany. With German weather, German visibility, German foliage, with German elevations superimposed.”³¹⁷ This experience induced an epiphany. On 8 October 1973, Peled and the IDF’s Northern Command were confronted with a dilemma like the one Starry now faced as a corps commander in West Germany. Just when military logic appeared to suggest reinforcing a faltering defense, the actual solution was to aggressively pursue, seize, and exploit the initiative. Starry came to appreciate, as a result of these engagements and visits, that:

The modern battlefield will require commanders to think clearly about some very complex situations, to decide quickly what must be done, and to issue clear-cut, simple instructions about who is to do what, where and when, in order to get done what the commander has decided upon . . . Therefore it is necessary that, to the extent possible, complex situations be perceived, solutions thought through, and reasonable courses of action postulated in advance, in order to foreshorten the decision-making cycle—turning it, in time, inside that of the enemy . . . More often than not the outcome of battle defies the traditional calculus used to predict such outcomes . . . The outcome of battle at tactical and operational levels will be decided by factors other than numbers . . . In the end, the side that somehow, at some time, somewhere in the course of battle seizes the initiative and holds it to the end, will be the side that wins.³¹⁸

In such a predicament, the chaos and uncertainty of battle could thus be an advantage; these factors would confront both friendly and enemy forces, and the battle would swing in favor of the side that not only possessed qualitative superiority but also grabbed the initiative and held it to the end of the fight. Combat was not a sophisticated math problem

³¹⁷ General Donn A. Starry, letter to Dr. Richard Swain, U.S. Army School of Advanced Military Studies, Fort Leavenworth, KS, 7 June 1995, 16-17.

³¹⁸ General (Retired) Donn A. Starry, “TRADOC’s Analysis of the Yom Kippur War,” briefing transcript, 16 March 1999, The Jaffee Center Military Doctrine Joint Conference, Casarea, Israel, 4-5, in Sorley, vol. 1, 220-225.

in which commanders could somehow probabilistically determine the likelihood of success or failure. Chance, risk, and friction would endure, and the operational-level commander more prepared to deal with its effects, through competitive cycles of decision making, would be more able to engage—and potentially profit from—such uncertainty on the modern battlefield.

Additionally, as Starry was transitioning from command of V Corps to command of TRADOC, a post he assumed in July 1977, the Army and broader U.S. defense community were expanding the scope and nature of the evolving military problems with which they were confronted. As discussed in chapter 4, TRADOC had designed Active Defense to counter a Warsaw Pact narrow-front, break-through attack and exploitation. In late 1977, Phillip Karber published a two-part analysis of dramatic changes to Soviet military doctrine. The Soviets were now exercising bolder, multi-pronged attacks and meeting engagements by regiments (instead of divisions) reinforced by multiple follow-on echelons. The new doctrine was based on “the elements of mobility, speed, and surprise [and aimed] at hitting holes and weak spots in the defender’s front line and flanks in order to create confusion and chaos before the enemy [could] regroup and form any sort of defense in depth . . . Movement provides tactical surprise, and strategic surprise [through an increased emphasis on preemptive attack] creates the conditions for operational mobility.”³¹⁹ Thus, in response to its own lessons from the 1973 Arab-Israeli War, which included similar concerns over the battlefield’s accelerating intensity, density, and lethality, the Warsaw Pact was seeking to magnify and exploit combat’s

³¹⁹ Phillip Karber, “The Tactical Revolution in Soviet Military Doctrine, Part I,” *Military Review* 57, no. 11 (November 1977): 84.

inherent chaos. The Soviets and their allies were no longer expecting to win based entirely on their quantitative superiority; rather, they were setting conditions to compete more effectively in a highly uncertain and risky operating environment, thereby gaining a qualitative advantage to complement their seemingly decisive numerical superiority.

Even though there were still many unanswered questions about the Soviets' doctrinal changes, Karber drew what to many was becoming an increasingly obvious conclusion: NATO "must make some changes in direct relationship to the changes occurring in Soviet tactical doctrine."³²⁰

Moreover, leading defense thinkers and leaders were emphasizing another significant flaw of the Active Defense doctrine. For example, the burgeoning, Oxford-educated strategist and political scientist, Colin S. Gray, wrote a piece in early 1978 in which he provided a brief assessment of the new FM 100-5 within the context of a broader discussion on force planning, political guidance, and the decision to fight. While he lauded FM 100-5 as an "excellent new operations manual," he did call into question the U.S. government's disproportionate emphasis on the European theater at the expense of other potential contingencies against Soviet proxies in the Middle East and East Asia.³²¹ There was an increasing realization that though war with the Warsaw Pact in Europe remained the highest priority and most dangerous potential military problem, there was a growing "balance of power uncertainty" in the world. In 1979, the Soviet

³²⁰ Phillip Karber, "The Tactical Revolution in Soviet Military Doctrine, Part II," *Military Review* 57, no. 12 (December 1977): 33-34.

³²¹ Colin S. Gray, "Force Planning, Political Guidance, and the Decision to Fight," *Military Review* 58, no. 4 (April 1978): 5-16.

invasion of Afghanistan and the Iranian Revolution further exacerbated these concerns; not only might the United States and its allies have to confront the Red Army in Central Europe, but they might also be forced to engage in short, high-end conflict against Soviet-backed client states around the world.³²²

In summary, the late 1970s was a period of ongoing reform for a U.S. Army still very much in transition. During this period, Starry and the Army's other senior leaders began to appreciate the incongruities between the Active Defense and the realities of the modern battlefield. Uncertainty and complexity—and thus risk—became increasingly apparent at the tactical, operational, and strategic levels. The 1976 version of FM 100-5 inadequately addressed the imperative for seizing the initiative, the levels of war, the depth and breadth of the battlefield, as well as the inherent uncertainty and unpredictability of battle. When Starry assumed command of TRADOC, he immediately began setting conditions to address these incongruities.

The Path to AirLand Battle: The Impact of Uncertainty on the Course and Objectives of Modern Battle

The 1982 version of FM 100-5 was published after Starry relinquished command of TRADOC, but the manual's strikingly different approach to fighting and winning across the range of military operations was a product of his efforts, experiences, and leadership over the preceding decade. The new doctrine was a reflection not only of a fuller appreciation of the risk-taking model offered by the IDF during the 1973 Arab-Israeli War, but also of a more comprehensive understanding of evolving Soviet doctrine,

³²² Jensen, 56-68.

the writings of reconsidered military theorists, and the broader range of global threats. AirLand Battle recognized the impacts of uncertainty on a commander's objectives, especially at the operational level of war; commanders would thus have to take risks, and this would require a capstone manual that rebalanced the Army's existing doctrinal emphases on the defense, firepower, technology, as well as rigid command and control.

Setting Conditions for Writing FM 100-5: Elevating and Expanding the Aperture

As Starry left V Corps and assumed command of TRADOC, he initially remained committed to the intensive quantitative analytics epitomized by "battlefield calculus" and target-servicing methodologies. He had evolved his concept of the "Corps Battle" into something he called the "Central Battle."³²³ Key to this evolution was the detailed analysis of approximately 150 V Corps battle simulations and other key mechanized battles from the past. These studies, in Starry's view, demonstrated that exquisitely trained and well led crews and organizations properly employing the most advanced available technologies could compete effectively, even if outnumbered at a ratio of 5:1.³²⁴

However, the Central Battle alone was insufficient to deal with many of the emerging problems posed by the rapidly changing modern battlefield. Starry understood the need to expand and elevate the aperture through which planners and commanders viewed these challenges in time, physical space, and levels of command responsibility. In order to address those challenges, Starry drove several important institutional adjustments

³²³ Romjue, *From Active Defense to AirLand Battle*, 24-25.

³²⁴ General Donn A. Starry, "Armor Conference: Keynote Address," *Armor* 87, no. 4 (July-August 1978): 32-36.

in TRADOC. First, using a systems approach, TRADOC developed and published a Battlefield Development Plan in November 1978. This plan paired Starry's concept of the Central Battle with that of Force Generation. The former focused on the "critical tasks" required to win the first-echelon fight (target servicing, air defense, suppression-counter-fire, command-control-communications-electronic warfare, and logistical support), while the latter focused on the "critical tasks" required to set conditions to deal with the Warsaw Pact's follow-on echelons (interdiction, command-control-communications, force mobility, surveillance-fusion, and reconstitution).³²⁵

Second, whereas DePuy's reforms as TRADOC commander had concentrated on near-term combat developments, Starry expanded the planning horizon for such efforts through the introduction of operational concepts. Starry defined an operational concept as "a description of military combat, combat support and combat service support systems organizations, tactical and training systems necessary to achieve a desired goal."³²⁶ In his view, concepts should emerge in response to perceived changes in the threat, mission, opportunities offered by technology, and historical insights. Once properly evaluated, these concepts should then drive changes in doctrine, training, materiel requirements, and organizations.

TRADOC would generate over twenty such concepts over the next four years, but those most crucial to the revision of the Army's capstone doctrine were the evolving series of top-level concepts. The first concept, presented in late 1979, "integrated the

³²⁵ Romjue, *From Active Defense to AirLand Battle*, 24-27.

³²⁶ General Donn A. Starry, "Commander's Note, No. 3: Operational Concepts and Doctrine," 20 February 1979, Starry Papers, Box 59, Folder 1.

tactical nuclear option and the deep second-echelon interdiction ideas into a general scheme of tactics and operational maneuver” for the first time.³²⁷ Emerging target-acquisition, long-range strike, and real-time communications technologies afforded friendly forces the ability to effectively disrupt the Soviets’ follow-on echelons, but the Army required clear doctrinal explanations of how to plan and execute an increasingly complex interdiction effort at multiple echelons.³²⁸

Initial work began on the new version of FM 100-5 in March 1980. However, believing that the Integrated Battlefield had become disproportionately associated with its nuclear dimension, Starry and Lieutenant General William Richardson, the Combined Arms Center commanding general, directed the development of an Extended Battlefield concept, placing greater emphasis on the depth dimension of the overall concept. The CSA, General Edward “Shy” Meyer, approved this concept in November 1980.

Two months later Starry instructed his subordinate commanders to integrate these two concepts into a broader overarching concept: AirLand Battle.³²⁹ In March 1981, Starry disseminated the Army’s maturing thinking through a long article in *Military Review*. He stated clearly that the “purpose of military operations cannot simply be to avert defeat, but, rather, to win.” In attacking across the full depth of the battlefield, the

³²⁷ Romjue, *From Active Defense to AirLand Battle*, 34-39.

³²⁸ Brigadier General Edward A. Dinges and Major Richard H. Sinnreich, “Battlefield Interdiction: Old Term, New Problem,” *Field Artillery Journal* 48, no. 1 (January-February 1978): 14-17.

³²⁹ General Donn A. Starry, “The Air Land Battle,” message for commandants and commanders, 29 January 1981; reproduced in Romjue, *From Active Defense to AirLand Battle*, 98-99.

Army now “aimed at more ambitious goals than just fractional attrition or harassment;” instead it sought “to create periods of friendly superiority in which the initiative can be seized with enough time to act. The longer and more frequent these windows can be made, the greater the chance of winning.”³³⁰ Shortly thereafter, TRADOC published and widely disseminated the *Operational Concept for the AirLand Battle and Corps Operations-1986*. Reflecting much of the language that Starry employed in his *Military Review* article, the concept’s purpose was to set conditions for “realiz[ing] the full potential of U.S. forces. Two notions [the extended and integrated battlefields] are blended to describe a battlefield where the enemy is attacked to the full depth of his formations. What we seek is a capability for early initiative of offensive action by air and land forces to bring about the conclusion of battle on our terms.” The concept emphasized that seizure and exploitation of the initiative would “destroy the integrity of the enemy operational scheme, forcing him to break off the attack or risk resounding defeat.”³³¹ In other words, Army elements, through pursuit of the initiative and deep attack, would impose the effects of uncertainty on enemy commanders in an effort to disrupt their decision-making cycles; commanders thus needed to prepare their formations to engage uncertainty and take risks at both the tactical and operational levels.

In addition to introducing the concept framework into TRADOC’s planning, Starry also developed a new doctrinal development process, including the creation of the

³³⁰ General Donn A. Starry, “Extending the Battlefield,” *Military Review* 61, no. 3 (March 1981): 31-50.

³³¹ Headquarters, U.S. Army Training and Doctrine Command, TRADOC Pamphlet 525-5, *Operational Concept for the AirLand Battle and Corps Operations-1986* (Fort Eustis, VA: U.S. Army Training and Doctrine Command, 1981), 2, 7.

Office of the Deputy Chief of Staff for Doctrine. Moreover, he returned control of the doctrine writing and integrating process to CAC in order to ensure that the schools responsible for teaching, training, and defending the doctrine had a voice in its development.³³² Finally, along with Richardson, he employed the use of both formal and ad-hoc “incubators and advocacy networks.” According to social scientist Benjamin Jensen, the former enabled “problem-driven simulation and experimentation,” while the latter facilitated the “diffusion of ideas.”³³³

Concurrent with these developmental efforts, Starry sought to mitigate the intensive quantitative analytic methodologies that had come to dominate the ways in which the Army framed and solved problems; this effort would not only impact the revision of the capstone doctrine, but it would also enable the writers to understand and embrace the play of chance and the effects of uncertainty on the modern battlefield. While TRADOC under Starry continued to use quantitative analysis to better understand those things that could and should be measured, Starry also believed that the Army had “raised the art of quantifying—the ability to put a number on anything—to a religion, or at least an obsession.” He did not believe that the hard questions of command, soldiers, or the Army more broadly could “be reduced to a bar graph presentation of statistics.” Thus, Starry insisted on integrating qualitative analysis and “putting a break on the meaningless collection of unrelated and irrelevant statistics—irrelevant because they don’t measure

³³² Romjue, *From Active Defense to AirLand Battle*, 27-30, 38-39.

³³³ Jensen, 84-86.

either our soldiers or our mission.”³³⁴ Starry also placed increased emphasis on the study and integration of military history and theory. The most obvious expression of this was the creation of the Combat Studies Institute at Fort Leavenworth, Kansas to which he gave the mission of “producing historical case studies investigating the background of problems we face today.” He did this in the “hope that [the Army] might derive doctrinal perceptions which would help [it] toward solution without so much stumbling oblivious of history related to the subject.”³³⁵ Shortly after leaving TRADOC to assume command of U.S. Readiness Command, Starry wrote an article discussing the Army’s recently revised principles of war. His point of departure was the assertion that “modern war requires the application of both the science and the art of war.” The former was subject to change, often driven by significant technological developments; however, the latter was more durable and required “critical historical analyses of warfare.”³³⁶ This emphasis would set conditions for those charged with writing the 1982 version of FM 100-5 to engage and integrate the thinking of historians and theorists who understood that fog, friction, chance, and chaos were inherent to battle and that, therefore, combat was and would always be filled with uncertainty and risk.

³³⁴ General Donn A. Starry, “The Soldier and Training,” cavalry ball speech transcript, Fort Carson, CO, 9 January 1981; reproduced in Sorley, vol. 2, 714-717.

³³⁵ General Donn A. Starry, “Military History,” letter to Lieutenant General Richard E. Carey, U.S. Marine Corps, 25 January 1982; reproduced in Sorley, vol. 1, 626.

³³⁶ General Donn A. Starry, “The Principles of War,” *Military Review* 61, no. 9 (September 1981): 2-12.

The 1982 Version of FM 100-5: Operational Risk
Realized in U.S. Army Doctrine

When the Army published the new version of FM 100-5 in August 1982, culminating and codifying three years of experimentation and discussion, the manual hit the service like a jolt of electricity. The new FM 100-5 clearly stated the Army's new operational concept, i.e., "the core of [the] doctrine: [The AirLand Battle doctrine] is based on securing or retaining the initiative and exercising it aggressively to defeat the enemy. Destruction of the opposing force is achieved by throwing the enemy off balance with powerful initial blows from unexpected directions and then following up rapidly to prevent his recovery."³³⁷ Central to this dynamic new operational concept were the doctrine's four tenets: (1) initiative, implying an "offensive spirit in the conduct of all operations;" (2) depth, in time, distance, and resources; (3) agility, in both leaders and organizations, enabling faster and more adaptive action than the enemy; and (4) synchronization in order to achieve unity of effort and ensure the application of maximum combat power.

Moreover, the new manual clearly distinguished between and related the three levels of war: strategic, operational, and tactical. The addition of the operational level of war was unprecedented in Army doctrine. It comprised the "theory of larger unit operations" as well as the bridge between national and theater strategic goals and individual tactical actions.³³⁸ Clearly articulating the importance of the operational level

³³⁷ Headquarters, Department of the Army (HQDA), Field Manual (FM) 100-5, *Operations* (Washington, DC: Government Printing Office, 1982), 2-1.

³³⁸ *Ibid.*, 2-2 - 2-4.

doctrinally emphasized the exponential change in the breadth and depth of a commander's responsibilities and planning horizons at corps and above. The use of this sort of echelonment, in time, space, and purpose, was a response to the theoretical rejuvenation of these concepts in contemporary Soviet doctrine.³³⁹ In order to win, rather than merely survive, operational-level commanders would have to visualize the interplay of their capabilities against those of the enemy across the full depth of the battlefield. Elevated to this level, the available "defeat mechanisms"³⁴⁰ became more conceptual, introducing a considerable degree of uncertainty, and thus risk, into a commander's judgment and decision making.

Although the new manual formally defined risk as something approximating the potential for loss—danger to men and materiel as well as danger to accomplishing the mission—the evolved doctrine, in stark contrast to the 1976 version of FM 100-5, advocated the imperative to engage the inevitable uncertainty and to take risks. Doing so as "the battle becomes more complex and unpredictable" would give friendly commanders a competitive advantage over that of the enemy.³⁴¹ Despite the new FM

³³⁹ Lieutenant Colonel John S. Doerfel, "The Operational Art of the AirLand Battle," *Military Review* 62, no. 5 (May 1982): 3-10. While at the Field Artillery School, Doerfel was the lead action officer for the development of the "Integrated Battlefield" concept; see Romjue, *From Active Defense to AirLand Battle*, 35-37.

³⁴⁰ Major Michael S. Lancaster and Jon Clemens, "AirLand Battle Defeat Mechanisms," *Armor* 92, no. 1 (January-February 1983): 35-37. The authors saw three broadly available defeat mechanisms in the new doctrine: (1) firepower-based disruption (interdiction); (2) maneuver-based force disruption (victory through disruption of enemy's ability to apply combat power); and (3) firepower-based force destruction (victory through destruction of the enemy's combat power).

³⁴¹ HQDA, FM 100-5 (1982), 2-7.

100-5's literal definition of risk, it made considerable shifts in four important areas, setting conditions for the Army to conceptualize, prepare for, and embrace risk at the operational level of war. The new doctrine pivoted back to an emphasis on the offense, the importance of maneuver, the enduring value of the human element, and the imperative to decentralize command and control to the lowest practical level.³⁴²

In place of the Active Defense's firepower-based, attritional, and defensively-focused approach, AirLand Battle restored the primacy of the offense and maneuver.³⁴³ Army elements would now conduct deep, expanding attacks dependent upon the imperative to gain, maintain, and exploit the initiative. Offensive action would develop either through a movement to contact followed by a hasty attack or through a deliberate attack; both would be followed immediately by an exploitation and pursuit.³⁴⁴ The purpose of the defense was to "cause the enemy attack to fail" and to wrest the initiative

³⁴² In anticipation of the new FM 100-5's publication, its two primary authors wrote an extended article in which they articulated the reasons for the revision as well as the key principles and concepts underpinning the new doctrine. They claimed that the Active Defense had been a "radical departure from the Army's operational tradition. It [had] underrated the key elements of depth, maneuver and initiative, and it paid insufficient attention to the human element in battle;" see Lieutenant Colonel Huba Wass de Czege and Lieutenant Colonel Leonard D. Holder, "The New FM 100-5," *Military Review* 62, no. 7 (July 1982): 55. This study remains indebted to Kretchik for his clear and considerate analysis of the doctrinal shifts between offense/defense, maneuver/firepower, and human element/technology; see Kretchik, 205.

³⁴³ During the writing of the manual, the movement away from an attritional focus was important to both Generals Starry and Meyer. In commenting on an early 1981 draft of FM 100-5, Meyer wrote to Starry and endorsed the greater balance between firepower and maneuver and the elimination of the "impression we are only attrition oriented" (emphasis in the original); General Edward Meyer, letter to General Donn A. Starry, 21 March 1981, Starry Papers, Box 59, Folder G.

³⁴⁴ HQDA, FM 100-5 (1982), 9-1 - 9-19.

from the enemy as a prelude to offensive operations; the doctrine was explicit: “to win, one must attack.”³⁴⁵ The restored offensive spirit of the Army’s doctrine was embodied in the tenet of the initiative, which the manual called “the greatest advantage in war.” Its pursuit, retention, and exploitation would enable commanders to generate and take advantage of fleeting opportunities, within their higher headquarters’ intent, amidst “the confusion of war.”³⁴⁶ The new version of FM 100-5 stated clearly that “there is no simple formula for winning wars;”³⁴⁷ the quantitative, antiseptic approach of the Active Defense had been replaced by an operational concept that recognized and embraced the fluidity, chaos, and uncertainty of modern combat.

The increased emphasis on maneuver was essential to the new operational concept. Leveraging B. H. Liddell Hart’s writings on the indirect approach, AirLand Battle advocated rapid, violent, unexpected, and deep maneuver against the enemy’s weak points in an effort to unbalance his decision making and shatter his will to resist.³⁴⁸ The shift away from the 1976 version’s heavy emphasis on firepower appeared to signal the Army’s increased willingness to proactively take control of the battle and dictate how,

³⁴⁵ Ibid., 10-1 - 10-2.

³⁴⁶ Ibid., 7-2.

³⁴⁷ Ibid., 1-1.

³⁴⁸ B. H. Liddell Hart, *Strategy: The Indirect Approach* (New York: Frederick A. Praeger, 1954). The doctrine’s authors explained that Hart’s writings had influenced their conception of the attack as “an expanding torrent . . . [one that] should move fast, follow reconnaissance units or successful probes through gaps in enemy defenses, and shift its strength quickly to widen penetrations and reinforce success. The attacker tries to carry the battle deep into the enemy’s rear to break down the enemy’s defenses before he can react;” see Wass de Czege and Holder, 63.

when, and where it would be fought. Within the new doctrine, maneuver, along with firepower, protection, and leadership, comprised the four elements of combat power. However, firepower was cast as the servant of maneuver; the former enabled the latter to obtain positions of relative advantage in order to “threaten destruction of the enemy” and “focus maximum strength against the enemy’s weakest point.”³⁴⁹ Importantly, such aggressive maneuver, especially at the operational level, required friendly commanders to be more comfortable with uncertainty and more prepared to take risks.³⁵⁰

The new doctrine also restored the primacy of what it called the human element: the role and value of “courageous, well-trained soldiers and skillful, effective leaders,” which FM 100-5 identified as the “most important” fundamental of AirLand Battle.³⁵¹ Whereas the 1976 version of FM 100-5 had sought to “regulate the chaos of war through technology,” seemingly “subjugat[ing] people to technology,” the 1982 version “restored the soldier to prominence.”³⁵² Drawing on the thinking of a range of military theorists and historians, the doctrine’s writers emphasized the role that moral forces, inherent to the dynamics and nature of combat, would play on the modern battlefield. In the manual’s discussion of the offense’s purpose, they cited Carl von Clausewitz: “When we

³⁴⁹ HQDA, FM 100-5 (1982), 2-4.

³⁵⁰ See for example, Lieutenant Colonel Paul T. DeVries, “Maneuver and the Operational Level of War,” *Military Review* 63, no. 2 (February 1983): 28-33. The author specifically cites the risks confronting the IDF during the 1973 Arab-Israeli War, when they employed an economy of force against the Syrians and Jordanians, to conduct a bold operational maneuver against the Egyptians: crossing the Suez Canal to envelop the Egyptian Third Army.

³⁵¹ HQDA, FM 100-5 (1982), 7-1.

³⁵² Kretchik, 202, 205.

speak of destroying the enemy's forces we must emphasize that nothing obliges us to limit this idea to physical forces: the moral element must also be considered.”³⁵³ While AirLand Battle sought to shatter the moral cohesion of the enemy, it also sought to preserve that of friendly forces.³⁵⁴ Commanders required an understanding of the “human dimension of battle” in order to be able to “gage the risks involved in pressing soldiers to the limits of their endurance.” Citing the late nineteenth century French officer and theorist, Charles Ardant du Picq, FM 100-5 warned that commanders can “reach into the well of courage only so many times before the well runs dry.”³⁵⁵

The new doctrine thus treated battle as an inherently human endeavor, a contest of wills in which competing sides sought to disintegrate the cohesion of the other side. During the period when the Army was evolving its doctrine from Active Defense to AirLand Battle, the British military historian John Keegan published his sweeping study of battle’s continuities, *The Face of Battle*. Although not specifically cited in the 1982

³⁵³ von Clausewitz, 97. The quotation appears in FM 100-5 (1982), 8-4, opposite a discussion of the need to “shatter the will of the defending commander” as a purpose of the offense.

³⁵⁴ Interestingly, the IDF, in its own studies of the 1973 Arab-Israeli War, had come to appreciate the psychological vulnerability of its forces during periods of extended, high intensity combat and had taken considerable steps to improve the resiliency of its front-line forces. These efforts were a topic of discussion in U.S. military journals during the early 1980s. See for example, Major Richard A. Gabriel, “Stress in Battle: Coping on the Spot,” *Army* 32, no. 12 (December 1982): 36-42.

³⁵⁵ Charles Ardant du Picq, *Battles Studies: Ancient and Modern Battle*, trans. John N. Greely and Robert C. Cotton (Harrisburg, PA: The Military Service Publishing Company, 1946); cited and discussed in FM 100-5 (1982), 2-9.

version of FM 100-5, the influence of Keegan's thinking is obvious.³⁵⁶ In it, Keegan wrote:

What battles have in common is human: the behavior of men struggling to reconcile their instinct for self-preservation, their sense of honour and the achievement of some aim over which other men are ready to kill them. The study of battle is therefore always a study of fear and usually of courage; always of leadership, usually of obedience; always of compulsion, sometimes of insubordination; always of anxiety, sometimes of elation or catharsis; always of uncertainty and doubt, misinformation and misapprehension, usually also of faith and sometimes of vision; always of violence, sometimes also of cruelty, self-sacrifice, compassion; above all, it is always a study of solidarity and usually also of disintegration—for it is towards the disintegration of human groups that battle is directed.³⁵⁷

In order to underscore the inherently human nature of combat, the 1982 version of FM 100-5 replaced the often pedantic charts and quantitative analyses so replete in its 1976 predecessor³⁵⁸ with vivid historical vignettes and references.³⁵⁹ Despite the emergence of

³⁵⁶ Lieutenant General Richard Cavazos, the commanding general of the U.S. Army's III Corps, directed the attention of the doctrine writers to Keegan's *Face of Battle* in order to "highlight the human side of war—the moral dimension of combat, involving leadership, courage, endurance, and fear;" see Romjue, *From Active Defense to AirLand Battle*, 53-55.

³⁵⁷ Keegan, 303.

³⁵⁸ On the pedantry of the 1976 version of FM 100-5, see Brigadier General Donald Morelli, letter to General Donn Starry, 20 February 1980, Morelli letter to Donn A. Starry, 20 August 1981, Starry Papers, Box 20, Folder 3.

³⁵⁹ Grant's victory at Vicksburg in 1864 and the German's Army's triumph at Tannenberg in 1914 open the chapters on offensive and defensive operations, respectively; see FM 100-5 (1982), 8-2, 10-2. Moreover, the authors often wove illustrative historical anecdotes into the doctrinal narrative, including four references to the IDF's 1967 campaign in the Sinai against the Egyptian Army to help readers visualize the importance of the use of unexpected avenues of approach, the impact of seizing decisive terrain, the importance of concentration, and the imperative for deep attacks; see FM 100-5 (1982), 3-5, 7-3, 8-4, and 8-5. On the motivation of the authors for the use of history as both inspiration for and illustration of doctrinal principles and concepts, see Wass de Czege and Holder, 57, 70.

seemingly revolutionary technologies, whose impact was transforming the characteristics of battle, the nature of combat was enduring. These continuities included the persistence of fog, friction, and fear. Even with more modern sensors and more sophisticated information and computing technologies, uncertainty would endure, and thus effective commanders needed to be prepared to take risks, especially at the operational level of war, where the ability to gain and maintain a complete picture of individual battles and broader campaign was exceedingly difficult.

The AirLand Battle operational concept emphasized surprise, concentration, violence, and speed in the execution of deep attack in order to unbalance the enemy and create windows of opportunity to defeat him in detail. Over the course of the preceding years, the writings of U.S. Air Force Colonel John Boyd had begun to permeate the discourse on the theory of maneuver. William Lind, who, as discussed earlier, was one of the first and most vocal critics of the Active Defense doctrine, believed that “whoever can go through this ‘Boyd Cycle’ or ‘OODA [observe-orient-decide-act] Loop’ consistently faster gains a tremendous advantage, primarily because by the time his opponent acts, his own action has already changed the situation so as to make the opponent’s action irrelevant.” He based this analysis on the Clausewitzian maxim that war is “dominated by uncertainty, rapid and unexpected changes, and friction;” thus, successful commanders would “thrive on chaos.”³⁶⁰ Although Starry and the other

³⁶⁰ William S. Lind, “The Theory and Practice of Maneuver Warfare,” in *Maneuver Warfare: An Anthology*, ed. Richard D. Booker, Jr. (Novato, CA: Presidio Press, 1993), 8-9.

leaders at TRADOC considered Lind to be a largely uninformed polemicist,³⁶¹ Boyd's thinking about competitive cycles of decision making were influencing their thinking. In fact, at least as early as 1980, Starry, Meyer, and several of the school commanders had been considering the applicability of Boyd's thinking on maneuver warfare. In a white paper summarizing the relevance of Boyd's theories and citing, as examples, the past campaigns of the Germans and Israelis, the anonymous author wrote:

The goal is destruction of the enemy's vital cohesion—disruption—not piece-by-piece physical destruction. The objective is the mind of the enemy commander, not the bodies of his troops. The principal tool is moving forces into unexpected places at surprisingly high speeds. Firepower is the servant of maneuver . . . The conflict is more psychological than physical. Effort focuses on the operational, not tactical level.³⁶²

While TRADOC was still drafting the manual, Starry's assessment of the challenge of command and control, given the opportunities, threats, and complexities introduced by new technologies, modern battle's increased tempo, and what he called the "self-constipating staff system," reflected the influence of Boyd's ideas. In Starry's view, the challenge of winning in this sort of environment would require a commander to "turn the information-decision cycle in time inside that of the enemy's information-decision cycle

³⁶¹ Brigadier General Donald Morelli assumed the new position of TRADOC's deputy chief of staff for doctrine in December 1979, playing a pivotal role in the design and writing of the 1982 version of FM 100-5. Shortly after Starry left TRADOC, Morelli wrote him a letter to provide him with a status of the draft manual in which he reemphasized that TRADOC's ongoing work with respect to question of maneuver, the tenets of AirLand Battle, and command and control were parts of a longer effort, "well before Lind inc. came up on the net;" see Morelli, letter to Donn A. Starry, 20 August 1981, Starry Papers, Box 59, Folder 6.

³⁶² Major General Jack Merritt, enclosed White Paper to letter to Generals Edward Meyer and Donn Starry, 28 March 1980, Starry Papers, Box 20, Folder 6.

so that instead of simply reacting to what the enemy does, he can seize the initiative.”³⁶³

Yet, the complexity and uncertainty of competing decision cycles in maneuver warfare, in which two networks—vice the two pilots in Boyd’s writing—were set against one another, would be exponentially greater. In order for friendly units to be successful against an agile opponent, they would need to maintain freedom of maneuver, which would thus require less micro-management and increased shared situational awareness.³⁶⁴ The Army therefore had to significantly revise its existing approach to command and control.

In place of the 1976 manual’s insistence on excessively tight control, risk aversion, and exquisite synchronization, the 1982 manual prescribed a more decentralized, fluid approach to command and control.³⁶⁵ In order to preserve the initiative, the primary tenet of AirLand Battle and Starry’s major operational-level insight from his re-examination of the 1973 Arab-Israeli War, the new doctrine explained that:

[S]ubordinates must act independently within the context of an overall plan. They must exploit successes boldly and take advantage of unforeseen opportunities. They must deviate from the expected course of battle without hesitation when opportunities arise to expedite the overall mission of the higher force. They will take risks, and the command must support them. Improvisation, initiative, and

³⁶³ General Donn A. Starry, “Command and Control: An Overview,” *Military Review* 61, no. 11 (November 1981): 2-3.

³⁶⁴ Preston Cline, telephone conversation with author, 29 April 2016. For a historical perspective on the influence of Boyd’s thinking, see Bousquet, 187-196.

³⁶⁵ The best, most concise analysis of the 1982 version of FM 100-5’s approach to command and control is Ancker, 47-48. This paper helped drive this study’s analysis of command and control through the lens of operational risk.

aggressiveness—the traits that have historically distinguished the American soldier—must be particularly strong in our leaders.³⁶⁶

FM 100-5 also placed strong emphasis on the use of mission orders within the higher commander's intent (i.e., "what they want to happen to the enemy"): "While detailed mission orders may be necessary at times, commanders must trust their subordinates to make correct on-the-spot decisions within the mission framework."³⁶⁷ The influence of the German Army's vaunted system of *Auftragstaktik* was obvious and present throughout the writing process. In a "Letter to Commanders," which was shared with Starry, the Chief of Staff of the West German Army, Lieutenant General Horst Hildebrandt, explained to his officers that *Auftragstaktik*:

Determines and forms our philosophy of command and control considerably . . . It requires every soldier to be prepared to act on his own in accordance with the mission given. This calls for the readiness to share responsibility at all level - at the same time, however, it necessitates mastering the respective military task so that independent action can take place at all levels. A common sense of responsibility and mutual trust, combined with a healthy self-confidence in one's own military abilities are therefore the foundation of mission-type tactics . . . Mission-type tactics above all make demands on the superior. He must have the ability to give orders for distinct, long-range objectives and must have the courage to rely on the subordinate to find the way towards that objective independently, to a large extent. This also means that the superior must share the risk for mistakes made in good faith by his subordinates.³⁶⁸

Thus, built on a foundation of trust and shared responsibility both of which organizations were to derive from the knowledge of their demonstrable tactical competency,

³⁶⁶ HQDA, FM 100-5 (1982), 2-1.

³⁶⁷ Ibid., 2-7.

³⁶⁸ Colonel Thomas A. Miller, Jr., Senior TRADOC liaison officer to the Army of the Federal Republic of Germany, "Mission-Type Tactics," memorandum for General Donn A. Starry, Starry Papers, Box 59, Folder 8.

commanders needed to be prepared to embrace uncertainty and take risks in order to encourage creativity in pursuit of the initiative.

Conclusion

TRADOC's leaders had designed the 1976 version of FM 100-5 to enable the Army to counter a specific problem in a specific part of the world: be able to conduct a forward defense against a numerically superior Warsaw Pact on a battlefield of unprecedented lethality, intensity, and density. The Active Defense provided improved tactics for the sub-nuclear, conventional battlefield as well as the catalyst for significant reforms in training and the basis for an aggressive equipment modernization program. However, it also generated a sense of institutional angst; many in the Army aspired for a more ambitious, offensively-oriented style of fighting. The gap between what the Army was then capable of doing and what it wanted to do forced the institution to think deeply about alternative ways of fighting but also about the enduring nature and evolving characteristics of combat.

In its thinking about war, the Army began to recognize the uncertainty and unpredictability inherent to combat, continuities that transcended many of the evolving characteristics of modern battle—something that the IDF had consistently understood and for which it had diligently prepared its leaders. To gain this recognition, the Army needed to confront the principles of Active Defense with the battlefield realities for which it had been designed. As the commanding general of V Corps, Starry undertook this challenge and eventually came to acknowledge the inadequacies of the doctrine. For one, the doctrine failed to address the complexities, extended planning horizons, and battlefield

depth that existed above the tactical level. It also failed to set conditions to gain, maintain, and exploit the initiative, the key pre-requisite for winning.

Although the 1976 manual had certain strengths, the Army had to fundamentally transform its doctrine in order to gain the initiative and hold it to the end of the fight.³⁶⁹ With the challenges of commanding the Corps Battle fresh in his mind, Starry made another visit to Israel and the Golan Heights shortly before assuming command of TRADOC. The full operational risk-taking model offered by the IDF through its performance in the 1973 Arab-Israeli War suddenly became apparent. The Army had begun the process of fixing and mastering its tactics, which increased its confidence and then afforded it the opportunity to consider the broader, more conceptual challenges of the modern battlefield, such as command and control, the appropriate role of technology, and the optimum balance between offense and defense as well as between maneuver and firepower.

In the following years, in addition to a fresh examination of the 1973 War's lessons, the Army also carefully studied evolving Soviet tactics and operational art, a more global range of potential threats, and the work of prominent military historians and theorists. Whereas the 1976 doctrine had advocated ruthlessly efficient but conservative

³⁶⁹ Although the 1982 version of FM 100-5 was significantly different from its 1976 predecessor, especially with respect to uncertainty and operational risk, there were important continuities (most notably the imperative for combined-arms warfare, the problems of war against a major power, and the challenges posed not only by emerging technologies but also by having to fight outnumbered), identified and embraced by TRADOC's leadership and the manual's writers. For the perspective of the manual's primary authors, see Wass de Czege and Holder, 54-55; for a historical perspective, see Major Aaron J. Kaufman, "Continuity and Evolution: General Donn A. Starry and Doctrinal Change in the U.S. Army, 1974-1982" (Monograph, School of Advanced Military Studies, Fort Leavenworth, KS, 2012), 35-61.

tactics as the means by which to attain qualitative superiority over the Warsaw Pact, the 1982 version of FM 100-5 advocated an expanded approach, reversing many of the trends made evident in its predecessor.

First, the manual restored the institution's bias for the offense; Active Defense was replaced with AirLand Battle, a deep, expanding attack dependent upon the imperative to gain, maintain, and exploit the initiative. The manual also shifted the previous version's emphasis on firepower back in favor of maneuver. AirLand Battle restored the primacy of the human dimension (over technology) and articulated a more fluid, decentralized system of command and decision-making, as well. The last point was central to the spirit of the Army's new doctrine. Drawing on the lessons of history (rather than an anodyne emphasis on quantitative analysis and reasoning) and the ideas of military theorists, the new version of FM 100-5 emphasized the fundamentally psychological nature of combat: technology was important, but these devices were tools in the hands of human decision makers vulnerable to war's inherent chaos, chance, and unpredictability. War was and would always be a contest of wills. AirLand Battle understood and embraced the need to embrace the inevitability of battlefield uncertainty and thus the need to take risks.

Yet there was still some evidence that the Army's desire to impose some sort of control on the inevitable disorder, uncertainty, and risk of modern combat persisted. In earlier drafts of the new version of FM 100-5, the writers had offered the following as tenets: initiative, violence, integration, and depth. Meyer approved initiative and depth in

January 1981, but expressed concerns with violence and integration;³⁷⁰ these tenets were ultimately replaced with agility and synchronization. Although subordinate to the new doctrine's emphasis on initiative, the maintenance of synchronization suggested—as Lind would later claim—that the Army still believed it could attempt to control the conduct of battle, an endeavor “dominated by surprise, rapid change, and friction” with mechanistic tools approximating “railway tables.”³⁷¹

Interestingly, Richardson also furnished a copy of the draft FM 100-5 to the now-retired DePuy for feedback and comment. In it, DePuy lamented the lack of an explicit emphasis on “the great benefits that flow from synchronizing in time, space, and task;” neither the terms “coordination” nor “integration” (making specific reference to the latter’s use as a tenet) carried the full meaning of synchronization. In fact, he argued that integration was “grossly inadequate to the importance of the subject.”³⁷² DePuy maintained that the Army’s doctrine should place greater emphasis on synchronization, enabling the converse effect upon the enemy. To this letter, DePuy enclosed a two-page note entitled “the value of synch;” in it, he provided a graduated series of effects, ranging from assessing the impact of finding an enemy howitzer via radar as “interesting” to

³⁷⁰ Meyer, letter to General Donn A. Starry, 21 March 1981. Enclosed to this letter was a working draft of FM 100-5 that Meyer had marked up; on page 2-4, Meyer wrote “OK” next to initiative and violence, but circled violence and integration and wrote “I share some concerns about these terms and explanations.”

³⁷¹ Lind, “The Theory and Practice of Maneuver Warfare,” 8.

³⁷² General William E. DePuy, letter to Lieutenant General William Richardson, 12 April 1981, Starry Papers, Box 59, Folder 6

annihilating the enemy through the exquisite synchronization of all available assets, with a heavy emphasis on fires, as the prelude to “victory.”³⁷³

In summary, even though the U.S. Army still maintained a certain doctrinal affinity for synchronization, it had nevertheless significantly transformed its doctrine, especially with respect to setting the conditions required to prepare for, conceptualize, and ultimately embrace operational risk on the modern battlefield. While the doctrine’s writers had replaced integration with synchronization as an AirLand Battle tenet, they had also underscored the imperative of taking risks in pursuit of the initiative.

³⁷³ Ibid.

CHAPTER 6

CONCLUSION

It is time to field and learn to use the concept [of AirLand Battle] on the ground, with real troops, real equipment and the real-world problems of field commanders. The time for implementation is now . . . because there is a promise of a major increase in combat effectiveness with current means. There also exists an enhanced capability to exploit new sensors, weapons and command control systems as they are fielded . . . And, finally, of equal importance, there is an opportunity to cause the enemy to wrestle right now with a problem he has traditionally assumed does not exist.

— General Donn A. Starry, “Extending the Battlefield”

The employment of maneuver units in the deep battle is obviously a high-risk undertaking. It will never become routine. But when it is done—or even attempted—it can have a disproportionately strong effect on the battle or campaign.

— Lt Col Leonard D. Holder, “Maneuver in the Deep Battle”

Changing Perceptions of Risk: From Aversion to Embrace, at Least Doctrinally

This study’s purpose was to examine how the U.S. Army’s understanding of and relationship with risk at the operational level of war changed in the decade following its withdrawal from Vietnam. Simply put, it explored how the Army expected its operational-level commanders to make judgments and decisions under conditions of uncertainty. How comfortable were they with uncertainty at this more abstract, conceptual level of war; did they view its impact as a potential advantage amidst the chaos and unpredictability of battle, or as the potential for loss and something to be avoided, managed, or controlled?

The impact of the 1973 Arab-Israeli War upon the U.S. Army’s conceptualization of, preparation for, and engagement with operational risk was significant. Although it

largely captured the elements of the IDF's model for operational risk-taking within its capstone concepts and doctrine, the Army was never able to fully implement this approach. First, although Starry would later take a more balanced approach to the role and impact of rapidly evolving technologies, the allure of these technologies always seemed to promise a near complete picture of the battlefield in real time—holding forth the potential for higher-level commanders to deliberately control all aspects of the fighting. On the eve of FM 100-5's 1982 publication, Starry himself argued that “the enhanced capability to exploit new sensors, weapons, and command control systems is more evident in the field of microprocessors and computers. As a nation, we have a considerable advantage over our potential adversaries in this technological field.”³⁷⁴ Additionally, the Army's corporatist, managerial legacy oriented the institution toward mechanisms of control and certainty. Over the period under study, one can perhaps best observe this dynamic in the dramatic changes to and impact of the Army training system.³⁷⁵ Third, unlike the IDF of this period, no true existential, sub-nuclear threat ever confronted the Army, although the specter of a Warsaw Pact attack in Europe certainly represented a considerable threat to the United States and its NATO allies. DePuy and the other Army leaders who visited Israel were quick to observe this as a factor

³⁷⁴ Starry, “Extending the Battlefield,” 49.

³⁷⁵ As Donald Vandergriff has argued, “although the [ARTEP] program helped to train units better, the Army turned it into a checklist measuring tool or test of commanders and their units’ combat abilities. Evaluations of units thus became a drill involving ‘checking the block on the ARTEP Training and Evaluation outline.’ Manuals focused on the management of the systematic conduct of training have emerged from this system;” see Donald Vandergriff, *The Path to Victory: America’s Army and the Revolution in Human Affairs* (Novato, CA: Presidio Press, 2002), 141.

distinguishing the U.S. Army's psychology from that of the IDF.³⁷⁶ Paired with a growing antipathy for American casualties during the execution of limited-objective, discretionary war, the Army's institutional risk aversion only hardened over this period.

Finally, as discussed in chapter 3, the IDF's senior leaders up through and including 1973 were shaped in a military that placed value on unconventional, special-operations-like approaches to navigating uncertainty. Many, like Dayan and Sharon, transferred this improvisational, risk-taking method of decision-making into their subsequent roles within the conventional army. The U.S. Army, in contrast, drew a sharper distinction between conventional and unconventional operations, especially within the period under study. During this period, the Joint Special Operations Command³⁷⁷ and the Army's Special Forces³⁷⁸ were formalized and subsequently developed sub-cultures different than those of their conventional counterparts. The impact of these developments upon the broader Army's relationship with risk is an area for further research.

³⁷⁶ For example, upon his return from his visit to Israel in late summer 1976, DePuy opened his letter to Weyand with the following observation: "Israel is a country at war. At the moment, the guns are silent. Having been driven from their homes in ancient times, scattered, dispersed, persecuted, nearly exterminated, the Israeli people look upon their Army as a symbol as well as an instrument of their freedom, dignity, and survival. It is for this reason that there is no other army like it in the world—there probably has never been such an army . . . The Army exists to defend 3,000,000 Israelis against a coalition of over 100,000,000 Arabs. Their strategy is the offense. Their psyche is the attack. Their confidence in the qualitative superiority as individual soldiers and leaders is infinite;" see General William E. DePuy, letter to General Fred Weyand, 18 August 1976, 1973 War Collection, Box 8, 1-2.

³⁷⁷ See for example, Sean Naylor, *Relentless Strike: The Secret History of Joint Special Operations Command* (New York: St. Martin's Press, 2015), 1-84.

³⁷⁸ See for example, Linda Robinson, *Masters of Chaos: The Secret History of the Special Forces* (New York: Public Affairs, 2004), 1-86.

Initially, TRADOC's leadership, including DePuy, Starry, and Gorman, leveraged the 1973 Arab-Israeli War to support initiatives of which they had conceived before the conflict had even started. They wanted the Army to fix and master its tactics, through improved doctrine and more rigorous training, and to modernize its aging equipment, which had been largely neglected during a decade of lower-intensity conflict in Vietnam. They drew accurate but incomplete lessons from their quantitatively focused study of the war. They attributed the IDF's military victory in 1973 to its superior tactical proficiency, combat-tested leadership, and a ruthless training regimen. In taking such a narrow perspective, they failed to see the benefits of the IDF's maneuverist and offensively-oriented doctrine, its decentralized and fluid system of command and control, and its careful balance between the roles of technology and those of the human decision-maker.

As a result, TRADOC developed a capstone doctrine that was fundamentally risk-averse. DePuy and his subordinates viewed rigid, tight control as well as meticulously synchronized concentrations of combat power in the defense as the only means by which to avoid defeat and to prevent the Warsaw Pact from achieving its objectives. Yet, in the years following the publication of the 1976 version of FM 100-5, during which the Army's operational elements gained greater proficiency and thus confidence, the ambition to wage a more offensively- and maneuver-oriented style of warfare emerged.

Crucial to this evolutionary process were the experiences, thinking, and leadership of Starry, who drove change from the insights he gained in key command positions within both the institutional and operational Army. Moreover, he remained open-minded about and in constant intellectual contact with the lessons and protagonists of the 1973 War. Thus, when as V Corps commander, he began to recognize the incongruities

between the principles of Active Defense and the battlefield realities with which he was confronted, he was able to project the judgments and decision-making of the IDF's operational-level commanders onto his own problem set. He recognized that in order to win, one must attack and that in order to attack effectively, one must gain, maintain, and exploit the initiative. Doing so would necessitate taking risks at the operational level, where the depth, breadth, and complexity of a commander's thinking, in time, space, and purpose dramatically exceeded those at the tactical level.

Therefore, as he transitioned from V Corps to TRADOC, he elevated and expanded the aperture through which the Army framed and evaluated military problems. In so doing, he and the rest of TRADOC began to appreciate the chaos, unpredictability, and risk inherent to battle. They then devised an operational concept and capstone doctrine that acknowledged and incorporated this uncertainty into its design. Instead of taking actions to eliminate uncertainty, AirLand Battle sought to impose its effects upon the enemy commander. If uncertainty in battle was inevitable, successful commanders would need to prepare themselves for its effects and actively pursue opportunities to inflict them on a less prepared adversary.

Over the course of this study, several over-arching themes emerged that illuminate the challenges of thinking about and preparing for risk at the operational level of war. First, the Army's new institutional leadership had to define what it meant by winning. In the immediate aftermath of Vietnam, this meant simply surviving the Warsaw Pact's numerically superior, multi-echeloned break-through assault: avoiding defeat by preventing the enemy from achieving the rapid, decisive victory its own doctrine demanded. Over time, as the U.S. Army's confidence in its tactical proficiency

grew, the doctrine became more classically “win-oriented” and directed toward positive aims: gaining, maintaining, and exploiting the initiative to disintegrate the enemy’s cohesion, thus shattering its will to resist and setting conditions to accomplish friendly objectives.³⁷⁹

Second, TRADOC had to frame the military problem or problems confronting the Army, design the appropriate doctrinal solution to defeat the enemy, and develop an accompanying narrative capable of communicating the necessary sense of urgency to the broader force. Initially, TRADOC’s leadership saw the Army’s problem as superficially similar to that of the IDF: conducting a forward-deployed defense against a quantitatively superior enemy upon a battlefield of unprecedented lethality, intensity, and density. In response, they devised a conservative, risk-averse doctrinal solution, the Active Defense, calibrated to solve the density-lethality-intensity equation” through rigorous battlefield calculus and target-servicing methodologies. The accompanying narrative was “winning the first battle of the next war while fighting outnumbered. This was a call to commanders to fix and master their tactics and to industry, Congress, and Army leadership to pursue an ambitious modernization program.

Subsequently, TRADOC expanded and refined the problem set that the Army sought to counter. The threat was not simply from a potential Warsaw Pact attack in Central Europe, but rather also from Soviet proxies fighting globally across a broader spectrum of military operations. Moreover, Soviet tactics were evolving in significant

³⁷⁹ Then-Lieutenant Colonel (later Lieutenant General) Leonard D. Holder, one of the primary authors of the 1982 version of FM 100-5, described the manual as “win-oriented;” quoted in Sorley, vol. 1, xiii.

ways, in its own effort to exploit the uncertainty and unpredictability of mid-intensity combat. In response, TRADOC developed a new operational concept and doctrine: AirLand Battle. The accompanying narrative was less explicit than it had been during the previous period of doctrinal development, but its most compelling traits appealed to the ambitions of the Army's officer corps: the primacy of the human dimension, a bias for the offense and maneuver, as well as a more decentralized, fluid, and risk-taking approach to command and control.

Third, the Army's approach to analysis underwent an important transformation during the period under study. The pathology for information that emerged from Vietnam and dominated the initial lesson-learning of the 1973 Arab-Israeli War as well as the design of the Active Defense was gradually rebalanced with more qualitative techniques, including the robust study and integration of military history and theory. While the ability to understand and relate opposing rates of movement and fire, the measurable effects of terrain and weather, and the ratios of combat power remained important in support of a commander's battlefield calculus, the more qualitative aspects of combat, including the persistent presence and effects of fear, friction, and fog, rose in importance. The Active Defense and its employment of intensively quantitative analytics sought to eliminate risk; commanders could and should measure as much as possible, calculate probabilities of success or failure, and directly control all aspects of a deliberately planned fight. In sharp contrast, AirLand Battle, tempered by its recognition of combat's continuities, including the omnipresence of uncertainty and risk, encouraged commanders to actively seek opportunities to unbalance the enemy through competitive cycles of decision making. The Army's new doctrine recognized that war was a fundamentally human experience—a

contest of wills—in which competence “underpinned” an organization’s ability to perform, but in which courage reigned supreme since it represented the willingness “to take a risk despite fear.”³⁸⁰

Finally, it is far easier to advocate the active engagement of risk in the Army’s doctrine than to operationalize that guidance. The organizational scientist Benjamin Jensen has recently defined doctrine as “a formalized theory of victory prescribing how the military professional should execute critical tasks in support of national security objectives.”³⁸¹ The historian Walter Kretchik concurs that “the purpose of the keystone manuals [is to provide] a philosophical methodology for winning wars,” but adds that these manuals also “contain the essence of how the army leadership has envisioned regulating the chaos of armed conflict through military operations.”³⁸² Thus, the 1982 version of FM 100-5 was, in many ways, unique; in its pursuit of a theory of victory, it advocated fomenting chaos and uncertainty in order to enable friendly elements to impose their will on an unbalanced and disintegrating enemy.

Organizational culture influences both how an army learns, develops, and integrates new approaches to fighting into its doctrine.³⁸³ It also impacts the Army’s

³⁸⁰ General Donn A. Starry, “Modernization,” speech transcript, AUSA Spring Banquet, Fort Sill, OK, 10 April 1980; reproduced in Soreye, vol. 1, 676.

³⁸¹ Jensen, 4.

³⁸² Kretchik, 278.

³⁸³ Carey W. Walker and Matthew J. Bonnot, “Myth Busting: Coming to Grips with Organizational Culture and Climate” (White paper, U.S. Army Command and General Staff College, Fort Leavenworth, KS, 2015), 2. They define organizational culture as the “shared beliefs of a group used to solve problems and reduce internal anxiety.”

ability to operationalize its evolved doctrine through training, education, leader development, and equipment modernization. Organizational culture, which thrives on stability, consistency, and continuity,³⁸⁴ can thus impede the extent to which a conservative bureaucracy, like the U.S. Army, learns and implements new approaches to warfighting. Military bureaucracies “must strike a balance between past and future if they are to be prepared for their next war.”³⁸⁵ In his study of mission command in the United States, British, and Israeli Armies, the political scientist Eitan Shamir observed that attempts to bridge the so-called “praxis” gap between doctrine and operations “result[ed] in an interplay between external and internal factors governing the organizational culture of each army and their unique modus operandi . . . [thus, due to these gaps,] mission command has mutated, a process resulting in the creation of variants more in congruence with local organizational cultures.”³⁸⁶ One can observe a similar dynamic in the attempted implementation of the Army’s new encouragement to take risks at the operational level; the doctrine may have advocated such risk taking, but the influence of the Army’s durable culture made some leaders less willing to do so. The U.S. Army’s ultimate style of operational risk-taking was therefore decidedly different from that practiced by the IDF during the 1973 Arab-Israeli War. Although AirLand Battle, as rendered in the 1982 version of FM 100-5, proposed a dynamic new vision of the role

³⁸⁴ Edgar H. Schein, *Organizational Culture and Leadership*, 4th ed. (San Francisco, CA: Jossey-Bass, 2004), 18.

³⁸⁵ Roger Spiller, *In the School of War* (Lincoln: University of Nebraska Press, 2010), 222.

³⁸⁶ Shamir, *Transforming Command*, 6-7.

and impact of operational risk, many of the available implementation mechanisms obstructed or modified the extent to which the Army was able to fully realize this evolved approach.

Looking Forward: Further Doctrinal Reform and the Challenges of Implementation

As the U.S. Army entered the 1980s, it had established an intellectual and doctrinal foundation upon which it would build and benefit for the next decade. Reforms and modernization continued at a furious pace, enabled by significant increases in defense spending. Although somewhat outside the scope of this thesis, a quick review of the Army's post-1982 efforts, leading up to and including its performance in the 1991 Persian Gulf War, is necessary to appreciate how effectively the Army implemented its new approach to operational risk.

Continued Reforms: Refining and Operationalizing AirLand Battle

It is not possible to fully describe the complete range of additional reforms that the Army pursued over this period, but, for the purpose of this thesis, an analysis of four major efforts will help to illuminate the friction that the Army encountered in trying to translate its new theory of victory—with all of its attendant operational risks—into practice. The first was the doctrinal rebalance that the Army underwent following the publication of the 1982 version of FM 100-5. Shortly after its publication, critiques in U.S. military journals lauded much of the new thinking, but expressed concern over the manual's disproportionate emphasis on the offense and maneuver at the expense of the

defense and the role of firepower.³⁸⁷ Furthermore, the U.S.’s West German allies conveyed some unease, claiming that the new doctrine was “overtly aggressive and possibly capable of provoking war.” Finally, emerging sensor and surveillance technologies also afforded the Army the opportunity to further deepen the battlefield to interdict follow-on echelons at even greater ranges.³⁸⁸

Although Holder, a primary author of the 1982 version of FM 100-5 and a member of the subsequent doctrine revision team, claimed that the new version of FM 100-5 would be “a second version of current doctrine,”³⁸⁹ the 1986 version of FM 100-5 was different in several important ways. It smoothed many of the sharper, more aggressive, and risk-taking aspects of its 1982 predecessor. The new capstone doctrine effectively rebalanced the emphasis between maneuver and firepower as well as between the offense and the defense. Maneuver would “rarely be possible without firepower and protection.” Additionally, not only would firepower provide the “destructive force essential to defeating the enemy’s ability and will to fight,” but, in relation to maneuver, firepower could “facilitate” it, “exploit” it, and “be used independently” of it.³⁹⁰ Although the new manual asserted that “the offensive is the decisive form of war—the commander’s ultimate means of imposing his will upon the enemy,” it also stated that the

³⁸⁷ See for example, Archer Jones, “FM 100-5: A View From the Ivy Tower,” *Military Review* 64, no. 5 (May 1984): 17-21.

³⁸⁸ Kretchik, 209-211.

³⁸⁹ Lieutenant Colonel Leonard D. Holder, “Doctrinal Development, 1975-1985,” *Military Review* 55, no. 5 (May 1985): 50-52.

³⁹⁰ Headquarters, Department of the Army (HQDA), Field Manual (FM) 100-5, *Operations* (Washington, DC: Government Printing Office, 1986), 12.

defense was “the stronger [albeit less decisive] form of war,” an acknowledgement conspicuously absent in its 1982 predecessor.³⁹¹

Importantly, the new doctrine also provided a fuller conceptualization of the operational level of war and operational art: “the employment of military forces to attain strategic goals in a theater of war or theater of operations through the design, organization, and conduct of campaigns a major operations.”³⁹² The manual maintained the imperative for commanders to take risks, even in the absence of complete information, “recognizing that waiting for such information will invariably forfeit the opportunity to act.” It also encouraged decentralization to facilitate the exercise of initiative amidst the chaos and uncertainty of battle, yet it warned commanders to balance the simultaneous need to gain, maintain, and exploit the initiative with the need to preserve “precision of execution.”³⁹³ In short, the 1986 version of FM 100-5 reasserted many of the core concepts and principles of its predecessor, but, after two major doctrinal shifts over the past decade, the refined version of AirLand Battle sought a more balanced compromise, one decidedly more consistent with the Army’s more conservative institutional culture and sense of identity.

The second effort was the continued expansion and maturation of the Combat Training Centers, a more comprehensive umbrella plan to synchronize collective training

³⁹¹ Ibid., 91, 129.

³⁹² HQDA, FM 100-5 (1986), 10. In addition to the introduction of the concept of operational art, the 1986 version of FM 100-5 also introduced the “Key Concepts of Operational Design,” including centers of gravity, lines of operation, and culminating points. HQDA, FM 100-5 (1986), 179-182.

³⁹³ Ibid., 15-16.

for both tactical elements at “dirt” sites and operational-level elements through virtual, simulation-driven war-fighter exercises. In addition to the NTC at Fort Irwin, California, the Army created two other “dirt” sites: the Joint Readiness Training Center at Fort Polk, Louisiana, to train light forces in low- to mid-intensity combat; and the Combat Maneuver Training Center in Hohenfels, Federal Republic of Germany.³⁹⁴ Additionally, in January 1987, the Army approved the concept for the Battle Command Training Program to train division- and corps-level commanders and staffs,³⁹⁵ finally enabling rehearsals and training at the operational level of war.³⁹⁶

The Combat Training Center program provided a testing ground for the Army’s tactical and operational commanders during this period. It created a strong incentive to build demonstrable tactical, technical, and operational proficiency through home-station training at individual and lower collective levels. However, it also generated a culminating, pressure-cooker-type evaluation experience that exposed the Army’s comfort level with uncertainty and risk taking. For example, in evaluating the willingness of higher-level leaders to enable their junior leaders to take risks and exercise initiative, NTC’s observer-controllers offered the following assessment in 1986:

On a real battlefield, if you’re caught between two [Motorized Rifle Battalions] you probably aren’t going to survive. So taking the chance has no repercussions. But in training you could get relieved. I mean your ass in on the line. For most company commanders there really isn’t any latitude. We see company

³⁹⁴ Chapman, *The Army’s Training Revolution, 1973-1990*, 25-26.

³⁹⁵ Priscilla Offenhauer and David L. Osbourne, *History of the U.S. Army Battle Command Training Program, 1986-2003* (Washington, DC: Government Printing Office, 2007), 1-102.

³⁹⁶ John S. Brown, “The Maturation of Operational Art: Operations Desert Shield and Desert Storm,” in Krause and Phillips, 442-443.

commanders that at that golden moment, the critical point in the battle, will do nothing without orders. If we prod them afterwards, they'll say 'Yeah, I should have counter-attacked when they went by.' We say, 'Why didn't you?' 'Well, I couldn't get a hold of the [Task Force] commander.' So initiative is a serious problem, it really is.³⁹⁷

The observer-controllers observed that units were successful to the extent that their leaders had "developed the skills of [their] subordinate leaders so that [they] trust them and can delegate tasks to them . . . [and] a command and control system which allows small unit leaders to demonstrate initiative and function in an independent but synchronized manner."³⁹⁸ In practice, there was thus a fundamental tension between AirLand Battle's tenets of initiative and synchronization. Initiative, or the offensive spirit required to take advantage of fleeting opportunities, briefed well, but made the higher-level commander's job of synchronizing all the available elements of combat power at the decisive place and time more difficult. Pursuing the initiative implied more decentralized control and a greater comfort level with uncertainty and risk taking. On the other hand, the demands of synchronization appeared, in many cases, to require the opposite of Army commanders.

Third, following DePuy's tenure as the TRADOC commander, the Army sought to strike a more even balance between training and education.³⁹⁹ The best expression of the Army's more expansive approach to education was its creation of SAMS at Fort Leavenworth, Kansas in 1983. As the CAC Commanding General, Lieutenant General

³⁹⁷ Major Sam Endicott and Earle Pence, *NTC Leadership Lessons Learned* (Fort Irwin, CA: U.S. Army National Training Center, 1986), 30.

³⁹⁸ Endicott and Earle Pence, 13.

³⁹⁹ Davis, 59-66.

William Richardson approved the concept. Later, as the Deputy Chief of Staff for Operations on the Army Staff, Richardson oversaw its implementation. He explained that SAMS was essential, given the increased complexity and uncertainty of war, because “an enhanced study of the art and science of war [would mold] young officers who were imaginative, could conceptualize, and whom the Army felt would go into staffs at Division and Corps immediately thereafter.”⁴⁰⁰ The demanding SAMS curriculum, which pivoted on the intensive study of division and corps battles and campaign planning, military history and theory, and independent research, was intended to prepare these planners to “direct the war plans [of their higher-level staffs] toward operational goals, and thus ensure the cumulative results of battles and campaigns was strategic victory.”⁴⁰¹ However, even with this more theoretical and academically-inspired educational emphasis, SAMS planners initially recommended the most risk-averse course of action to theater leadership during planning for Operation Desert Storm.⁴⁰²

Finally, during the 1980s, the Army made several attempts to both operationalize and further articulate in doctrine the more decentralized, fluid approach to leadership that the 1982 and 1986 versions of FM 100-5 advocated. The first such effort occurred early

⁴⁰⁰ Quoted in Kevin Benson, “Educating the Army’s Jedi: The School of Advanced Military Studies and the Introduction of Operational Art into U.S. Army Doctrine, 1983-1994” (Ph.D. dissertation, University of Kansas, Lawrence, KS, 2010), 10.

⁴⁰¹ Linn, 212.

⁴⁰² Vandergriff, 148-149. The SAMS planners offered three courses of action to U.S. Central Command’s leadership in October 1990, recommending one for a straight-up-the-middle attack over two variations of an enveloping maneuver on the Iraqis’ right flank because of the assumed potential for loss, given insufficient forces, long distances, and long, vulnerable lines of communication.

in 1982, when then-CSA General Edward Meyer assigned the Commanding General of III Corps and Fort Hood, Texas, Lieutenant General Walter Ulmer, Jr., the tasks of implementing two of the seven goals he had articulated the previous December as guidelines for achieving the Army's broader mission. These were the Human Goal and Leadership Goal, which were complementary and interdependent. According to the advisory group that the Army contracted to study the Human Goal and Leadership Goal implementation effort from 1982 through 1985 at Fort Hood, Texas:

There was an intent to create a command climate that would produce and support a force ready to go to war quickly and effectively; a command climate that would encourage and ensure the development of leaders able and willing to show initiative and to use common sense in achieving their commanders' objectives, a command climate that would tap the potential of all soldiers, would enhance morale and commitment, and thereby would promote the readiness of the organization to operate as a whole when possible, and as independent elements when necessary.⁴⁰³

Ulmer and his division commanders embraced the leadership approach articulated in the new doctrine and the CSA's guidance, employing a "power-down" philosophy across III Corps. Sample comments gathered by the study team suggested that "Ulmer and his staff were living the leadership behaviors . . . They allowed people to make mistakes . . . [They weren't] just writing about it, [they were] living it." Yet, "blocks in the chain of command" obstructed the ability to fully delegate responsibility.⁴⁰⁴ Not only is there no evidence to indicate that the Army ever did anything to more broadly apply the lessons gathered during the Fort Hood Leadership Study, but the study's results also indicated how vulnerable the doctrine's encouragement to decentralize, take risks, and exercise

⁴⁰³ Babbitt et al., vii.

⁴⁰⁴ Ibid., V-20.

initiative were to the personalities and experiences of individual commanders throughout the chain of command.

Furthermore, in the 1980s, the Army Research Institute made a major commitment to research leadership requirements at various levels of command. The effort brought together social scientists from outside and inside the Army and received senior military leader patronage from the Deputy Chief of Staff for Personnel on the Army Staff, Lieutenant General Robert Elton. He provided the critical access to the Army general officer corps.⁴⁰⁵ Stratified systems theory inspired and guided their inquiry; this theory holds that structured organizations are stratified into vertical levels, each of which is defined by an explicit complexity of the work to be performed (in both scope and scale) as well as the cognitive processes required of those working at each level.⁴⁰⁶ The research team interviewed about two-thirds of the Army's incumbent four- and three-star officers; a second effort involved a stratified sample of one- and two-star general officers. The researchers discovered significant differences in the competencies required of leaders at the direct (tactical), organizational (operational), and strategic levels, especially with

⁴⁰⁵ References for the study described are: Elliot Jacques, Samuel Clement, Charles Rigsby, and T. Owen Jacobs, *Senior Leadership Performance Requirements at the Executive Level*, Army Research Institute Research Report 1420 (Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences, 1986); Dr. T. Owen Jacobs, conversation with author, Arlington, VA, 8 May 2013. Dr. Jacobs is an Army Research Institute scientist who co-led the study.

⁴⁰⁶ For a good overview of stratified systems theory, see T. Owen Jacobs and Phillip Lewis, "Leadership Requirements in Stratified Systems," in *Strategic Leadership: A Multiorganizational-Level Perspective*, ed. Robert Phillips and James G. Hunt (Westport, CT: Quorum Books, 1992), 15-25.

respect to their ability to understand and deal with complexity, long time horizons, integrative skills, system-design skills, and high-level conceptual abilities.

Unfortunately, the leaders that Elton convened as part of the Strategic Leadership Coordination Council⁴⁰⁷ resisted making distinctions between leader competencies required at the different levels of war in the Army's leadership manual, FM 22-100, *Leadership*. In fact, it would take another twenty years before the Army would articulate such an echelonment of competencies in its leadership doctrine. The failure of this Army Research Institute study to gain traction among the Army's senior leaders again signaled the influence of the service's more conservative institutional culture. Despite the new capstone manual's clear designation of an operational level of war, the same competencies were expected of leaders at all levels. Yet the ability to conceptualize, prepare for, and engage risk at the operational level required a decidedly different skill set than from those at the tactical level.

Breathing Life into the New Doctrine: The U.S. Army in the 1991 Persian Gulf War

The U.S. Army never had the chance to exercise its new AirLand Battle doctrine against the threat for which it was designed: a quantitatively superior Warsaw Pact army and air force upon and over the plains of Central Europe. However, Iraq's invasion of Kuwait in August 1990 caused its diplomatic isolation and presented an opportunity to

⁴⁰⁷ This council comprised the Deputy Chiefs of Staff for Personnel and Operations on the Army Staff, the TRADOC Commanding General, and the Assistant Secretary of the Army for Reserve and Manpower Affairs.

employ the fully reformed and professionalized post-Vietnam Army as part of a massive multi-national coalition.

U.S. Central Command, under the leadership of General H. Norman Schwarzkopf, ultimately designed a campaign largely inspired and informed by the tenets and doctrinal concepts of AirLand Battle. The coalition first conducted more than a month of devastating air strikes against the full range of enemy targets in both Iraq and Kuwait. Thereafter, it executed a one hundred hour ground campaign during which the U.S. Third Army conducted an operational envelopment—the so-called Great Wheel—into the western flank and rear of Iraqi forces, who were deployed in a static defense along the Kuwaiti border. Furthest to the left, the XVIII Airborne Corps maneuvered along a sweeping arc into Kuwait and the western deserts of Iraq to cut Iraqi lines of communication and provide a screen to protect the left flank of the main effort VII Corps. VII Corps conducted a simultaneous two-pronged enveloping maneuver in which its 1st Infantry Division breached Iraqi defenses west of the Wadi al Batin, with the 1st British Armored Division as its exploitation force. This attack formed the hinge for a more expansive enveloping maneuver, comprising the 2d Armored Cavalry Regiment and the 1st and 3rd Armored Divisions to the west and north.⁴⁰⁸

⁴⁰⁸ This scope of this thesis obviously precludes a full accounting and analysis of the 1991 Persian Gulf War. For overviews of the planning, execution, and assessment of this campaign from the political-strategic, U.S. Army, Third Army, and VII Corps perspectives, respectively, see Michael R. Gordon and Bernard Trainor, *The General's War* (New York: Little, Brown, and Company, 1995); Scales, Jr.; Richard M. Swain, "Lucky War": *Third Army in Desert Storm* (Fort Leavenworth, KS: U.S. Army Command and General Staff College Press, 1994); Stephen A. Bourque, *Jayhawk!: The VII Corps in the Persian Gulf War* (Washington, DC: Center of Military History, 2002).

Commentators have called Desert Storm “the most successful campaign in U.S. military history. It liberated Kuwait in record time and shattered Saddam Hussein’s war-making capability . . . Coalition forces destroyed more than thirty divisions, captured or destroyed nearly four thousand tanks, and took almost ninety thousand prisoners in four days of fighting,” at a cost of less than 300 killed in action.⁴⁰⁹ With respect to operationalizing the principles of AirLand Battle, the Israeli historian and military theorist Shimon Naveh commended the campaign’s “depth, simultaneous operations, synergy, disruption, intellectual tension between the tactical and operational poles of command, and synchronization.”⁴¹⁰

More specifically, with respect to risk-taking, U.S. Central Command and the senior commanders in Third Army exhibited the willingness to embrace uncertainty at the operational level on several occasions over the course of the campaign. Three notable choices reflect this willingness. First was the decision to audible the disposition of Third Army from east to west of the Wadi al Batin in order to put its combat power in a position to attack into the softer, more dispersed western flank of the Iraqi defenses. This decision required the movement of over 250,000 servicemen and 60,000 vehicles, all while avoiding Iraqi detection.⁴¹¹ This redeployment of Third Army’s two corps set up the second operational risk; the requirement to sustain nine divisions and two ACRs maneuvering at a high tempo over extended and vulnerable lines of communication

⁴⁰⁹ Citino, 288.

⁴¹⁰ Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory* (New York: Frank Cass, 1997), 326.

⁴¹¹ Swain, “Lucky War,” 91-92, 157, 176-178; Citino, 290.

during the subsequent ground campaign.⁴¹² Finally, the approval for the 101st Airborne Division to conduct deep air assaults into Iraq to establish forward operating bases from which they could then interdict Iraqi lines of communication also represents another significant operational risk.⁴¹³

However, even in the warm glow of such a decisive victory, criticism about the U.S. Army's planning and execution of the campaign emerged. The tension between AirLand Battle's tenets of initiative and synchronization was apparent between leaders at all three levels of war throughout the conflict. Robert Leonhard argued, "Operation Desert Storm was strictly controlled from the top down. There was no room for initiative, or even significant maneuver options, below the corps level. Commanders at all levels were instructed where and when to move and were not permitted to find their own way to their objectives."⁴¹⁴ Historians Martin van Creveld and Steven Camby similarly lamented VII Corps' apparently greater interest "in synchronizing the moves of its own forces than vigorously exploiting battlefield success by sending spearheads forward."⁴¹⁵ The feuding

⁴¹² Lieutenant General (Retired) William G. Pagonis, *Moving Mountains: Lessons in Leadership and Logistics from the Gulf War* (Boston, MA: Harvard Business School Press, 1992), 141-149. See also Joel H. Nadel, "Logistics Lessons," in *Military Lessons of the Gulf War*, ed. Bruce W. Watson (Novato, CA: Presidio Press, 1991): 167-173.

⁴¹³ Thomas Houlahan, *Gulf War: The Complete History* (New London, NH: Schrencker Military Publishing, 1999), 241-250.

⁴¹⁴ Robert Leonard, *The Art of Maneuver: Maneuver Warfare Theory and Air-Land Battle* (Novato, CA: Presidio Press, 1991), 269; quoted and discussed in Shamir, *Transforming Command*, 134.

⁴¹⁵ Martin van Creveld, Kenneth S. Brower, and Steven L. Camby, *Air Power and Maneuver Warfare* (Montgomery, AL: Air University Press, 1994), 214; quoted and discussed in Shamir, *Transforming Command*, 134.

between the VII Corps Commander, Lieutenant General Frederick Franks, and General Schwartzkopf has been well documented and resurfaced in their post-retirement memoirs as a battle of competing narratives. Schwartzkopf believed that VII Corps' deliberate pace and insistence on taking an operational pause during the fighting deprived the main effort of the tempo and initiative it needed to envelop and destroy the Iraqi Republican Guard divisions, which he had identified as the enemy's operational center of gravity.⁴¹⁶ For his part, Franks maintained that the emphasis he placed on synchronizing the five fingers of his armored fist was essential to the execution of a disciplined attack, exploitation, and pursuit as well as the means by which to mitigate casualties and preserve the fighting effectiveness of his formation.⁴¹⁷

The tension between these tenets and between the senior commanders was indicative of the Army's orientation toward operational risk as the potential for loss. The potential gains to be acquired from a more aggressive engagement of uncertainty and the exploitation of the initiative were deemed unworthy of any additional casualties—especially from fratricide, an increasingly likely possibility from large mechanized formations maneuvering at a high tempo over vast distances in bad weather.⁴¹⁸ Additionally, unlike the fluid and decentralized IDF command structure in the

⁴¹⁶ General H. Norman Schwartzkopf with Peter Petre, *It Doesn't Take a Hero* (New York,: Bantam Books, 1992), 451-464; for a tactical perspective on the lack of initiative and insistence on synchronization, see Douglas MacGregor, *Warrior's Rage: The Great Tank Battle of 73 Easting* (Annapolis, MD: Naval Institute Press, 2009), 209-221.

⁴¹⁷ Tom Clancy with General Fred Franks, Jr., *Into the Storm: A Study in Command* (New York: G. P. Putnam's Sons, 1997), 405-453.

⁴¹⁸ For example, Lieutenant Generals Gary Luck and Frederick Franks, the commanders of XVIII Airborne and VII Corps, respectively, decided to establish a five-

period up to and including the 1973 Arab-Israeli War, the U.S. command structure was rigidly hierarchical, depriving it of some of the agility and initiative required to navigate uncertainty and take risks.⁴¹⁹ Finally, the U.S. Army's devastatingly effective employment of new technologies seemed to offer the possibility of lifting the fog of war, providing commanders with the certainty that they had long craved: precision-guided munitions paired with long-range sensors and surveillance platforms to decapitate and disrupt the enemy well in advance of the ground campaign; main battle tanks that could destroy enemy armor while moving at full speed from ranges of over three kilometers; thermal optics to "own the night;" and robust digital communications and global-positioning systems to provide a near-real time picture of a developing battle.⁴²⁰ Thus, within a decade of intellectually embracing the uncertainty and unpredictability inherent to battle, evidence on the ground in Iraq suddenly appeared to suggest once again a way to finally eliminate the fog and friction that had so consistently confronted senior commanders in the past.

kilometer sanitary zone between their two elements in which no target, even if positively identified as Iraqi, would be engaged in order to avoid fratricide; see Scales, Jr., 302-303. However, on balance, the need for such control measures was likely appropriate given the unprecedented tempo and lethality of modern combat combined with divergent views of the battlefield that developed between echelons and the neighboring corps; see John S. Brown, "The Maturation of Operational Art: Operations DESERT SHIELD and DESERT STORM," in Krause and Phillips, 466-468.

⁴¹⁹ Shamir, *Transforming Command*, 135-137; Gordon and Trainor, 430-431; Swain, *Lucky War*, 333-338, 341-342.

⁴²⁰ Keith L. Shimko, *The Iraq Wars and America's Military Revolution* (Cambridge, UK: Cambridge University Press, 2010), 89-90; Swain, *Lucky War*, 338-340; Scales, Jr., 364-367, 370-373.

Contemporary Value: Operational Risk and the U.S. Army Today

This study of the U.S. Army and operational risk is both relevant and useful to the contemporary Army, which again finds itself at an inflection point. In order to confront the envisioned complexity and uncertainty of the future operating environment, the current TRADOC Commander, General David Perkins, has discussed the importance of risk both for the development of the future force—“leaders at all levels must encourage prudent risk taking”—and in imposing the Army’s will on that of the nation’s adversaries—“the key to a Strategic Win is to present the enemy with multiple dilemmas; to compel enemy action requires putting something of value to them at risk.”⁴²¹

The challenges of dealing with uncertainty and complexity are important ones, especially given how ubiquitous these terms seem to have become in current Army strategy, doctrine, and guidance. David Snowden’s Cynefin Framework provides a model through which one can understand the challenges of operating when confronted by complexity. Unlike simple and complicated contexts—which assume an ordered universe, where cause-and-effect relationships are perceptible and right answers can be determined based on the facts—in complex contexts, there is “no immediately apparent relationship between cause and effect and the way forward is based on emerging patterns . . . That is why, instead of attempting to impose a course of action, leaders must patiently allow the path forward to reveal itself. They need to probe first, then sense, and

⁴²¹ Headquarters, Department of the Army Training and Doctrine Command, TRADOC Pamphlet 525-3-1, *The U.S. Army Operating Concept: Win in a Complex World, 2020-2040* (Fort Eustis, VA: U.S. Army Training and Doctrine Command, 31 October 2014), iii-v.

then respond.”⁴²² Thus, the former (simple, complicated) is the realm of exquisitely rehearsed battle drills and the disciplined execution of the Army’s military decision-making process, whereas the latter (complex) is the realm of operational risk.⁴²³

Insights from this study have the potential to illuminate potential paths forward in support of the Army’s ongoing effort to implement the mission command philosophy. Additionally, while outside the scope of this study, the evidence presented in this thesis offers important insights concerning the role of strong institutional leadership and the challenges of learning real during a period of reform and modernization (see Appendix B).

Implementing the Mission Command Philosophy

As part of its ongoing Doctrine 2015 initiative, the U.S. Army published and is currently working to implement its evolved mission command philosophy.⁴²⁴ This philosophy is not new; its underpinning tenets have been present in the Army’s capstone

⁴²² David Snowden and Mary Boone, “A Leader’s Framework for Decision Making,” *Harvard Business Review* 85, no. 11 (November 2007): 70-71.

⁴²³ See, for example, Preston Cline, “Risk Management for U.S. Army Special Operation: Addressing the Need to Continuously Adapt to a Changing Problem Set” (White paper, U.S. Army Special Operations Command, 6 February 2013), 8.

⁴²⁴ The published doctrine is Headquarters, Department of the Army, Army Doctrine Publication (ADP) 6-0, *Mission Command* (Washington, DC: Government Printing Office, 2012); the implementation plan is governed by Headquarters, Department of the Army, *U.S. Army Mission Command Strategy, FY 13-19* (Washington, DC: Government Printing Office, 2013). The strategy has three ends: (1) leaders understand and practice the Mission Command philosophy; (2) commander and staffs effectively execute Mission Command warfighting function tasks; and (3) a Mission Command system that enables commanders, staffs, and units to effectively execution the Mission Command warfighting function.

doctrine for the last century. Significantly, with respect to this study, the first time all six principles were present at one time in the same manual was the 1982 version of FM 100-5.⁴²⁵ Yet skeptics concerning the Army's ability to fully implement the philosophy abound: some have broadly questioned the Army's "stomach" to embrace a doctrine that sounds good on paper, but is hard in practice;⁴²⁶ others point to its aversion to such human-centric solutions;⁴²⁷ while others still believe it is anathema to an institution that values a "managerial approach characterized by centralization, standardization, detailed planning, and quantitative analysis."⁴²⁸

Of the six mission command tenets, risk arguably plays the central role. In his own study of operational risk, Major David Lamborn convincingly demonstrates that accepting or rejecting risk is the only mission command principle that involves making a decision; the other tenets either enable the decision (mutual trust and shared understanding) or convey guidance and facilitate actions based on the decision

⁴²⁵ Ancker, 42-52.

⁴²⁶ Tom Guthrie, "Mission Command: Do We Have the Stomach for What's Really Required?" *Army* 62, no. 6 (June 2012), 26. See also, Gregory Fontenot, "Mission Command: An Old Idea for the 21st Century," *Army* 61, no. 3 (March 2011), 64-70: "Swearing by decentralized operations and mission command will be far easier in PowerPoint briefings than in the field."

⁴²⁷ Richard Maltz, "Shared Situational Understanding: Fundamental Principles and Iconoclastic Observations," *Military Review* 90, no. 5 (September-October 2010): 53-57.

⁴²⁸ Eitan Shamir, "The Long and Winding Road: The U.S. Army Managerial Approach to Command and the Adoption of Mission Command (*Auftragstaktik*)," *The Journal of Strategic Studies* 33, no. 5 (October 2010): 645.

(commander's intent, mission orders, and disciplined initiative, respectively).⁴²⁹ Simply put, a commander's comfort level with the inherent uncertainty and unpredictability of combat often determines the extent to which that organization is able to retain sufficient agility to exploit the initiative in pursuit of its broader aims. However, for an Army to become more comfortable and adept at operational risk-taking, it must first grapple with the challenges of creating shared understanding and trust.

In re-introducing mission command to the Army, General Martin Dempsey explained that what distinguished it from the previous doctrine of "battle command" and "command and control" (C2) was the "increasing need for the commander to frequently frame and reframe an environment of ill-structured problems to gain the context of operations by continuously challenging assumption both before and during execution." He argued that in order to be able to do this effectively leaders at every echelon would need to "co-create" this context through collaborative dialogue with other leaders in their units.⁴³⁰ Perhaps the greatest threat to developing true shared understanding within the Army is assuming that advances in information and communications technologies that push information to the tactical edge will create it. Dempsey warned that "no C2 technology has ever successfully eliminated the fog of war, but it can create the illusion

⁴²⁹ Lamborn, 19.

⁴³⁰ General Martin Dempsey, "Mission Command," *Army* 61, no. 1 (January 2011): 44.

of perfect clarity from a distance. This can lead to micromanagement, a debilitating inhibitor of trust in the lower echelons of the force.”⁴³¹

In the mid- to late-1990s, during the so-called “Revolution in Military Affairs,” one of its biggest proponents, Admiral Bill Owens claimed that “never before in history . . . has a military commander been granted an omniscient view of the battlefield in real time, by day and night, and in all weather conditions—as much of the battlefield and an enemy force to allow vital maneuver and devastating firepower to deliver the coup de grace in a single blow. Today’s technology promises to make that possible.”⁴³² On the heels of the decisive U.S. victory in 1991, this appeared to make sense, but then the enemy adapted and the fog of war once again descended on the field of battle. The Army would be wise to heed Carl von Clausewitz’s warning: “We now know more, but this makes us more, not less, certain . . . Our mind must be permanently armed to deal with [this].”⁴³³

To understand the challenge of risk, especially at the operational level, one must also understand the role of trust. Dempsey wrote that trust “informs the execution of commander’s intent” and is the “moral sinew that binds the distributed force together.”⁴³⁴ Defining trust has always posed difficult problems for organizational scientists because

⁴³¹ General Martin Dempsey, *Mission Command White Paper* (Washington, DC: U.S. Joint Staff, 2012), 7.

⁴³² William A. Owen with Edward Offley, *Lifting the Fog of War* (Baltimore, MD: Johns Hopkins University Press, 2001), 14; quoted and discussed in Bousquet, 217.

⁴³³ von Clausewitz, 102.

⁴³⁴ Dempsey, *Mission Command White Paper*, 6.

of its context dependency. However, in a seminal 1998 paper, Denise Rousseau and her colleagues observed that across disciplines there was consensus on the two conditions that must be present for trust to arise: (1) Risk; and (2) “Interdependence, where the interests of one party cannot be achieved without reliance upon another.”⁴³⁵ Rousseau and her colleagues offered an earlier definition of trust, which captures the imperative to include and relate both risk and interdependence and is applicable across disciplinary contexts: “The willingness of a party to be vulnerable to the outcomes of another party based on the expectation that the other party will perform a particular action important to the trustor, irrespective of the ability to monitor or control that party.”⁴³⁶

In short, at the operational level, where leaders are no longer able to directly observe and supervise the actions of their subordinates, elements at all echelons must gain and demonstrate genuine competency as well as initiative in order to establish real trust within an organization; only then will operational commanders be willing to expose themselves to the effects of uncertainty upon their objectives. Starry understood and exhibited this during his tenure as the commander of V Corps. He invested enormous personal effort in articulating and practicing appropriate decentralization—to the lowest practical level, i.e., to an echelon with the resources and authorities to plan and execute the task. He also demanded and enforced the level of training and demonstrable

⁴³⁵ Denise Rousseau, Sim Sitkin, Ronald Burt, and Colin Camerer, “Not So Different After All: A Cross-Discipline View of Trust,” *The Academy of Management Review* 23, no. 3 (July 1998): 393-404.

⁴³⁶ Roger C. Mayer, James H. Davis, and David Schoorman, “An Integrative Model of Organizational Trust,” *Academy of Management Review* 20, no. 3 (1995): 709-734.

proficiency required to gain his trust and confidence, setting conditions to decentralize and accept risk.

Operational Risk and the American Way of War

So what does this period, spanning from 1973 to 1991, suggest about the role of risk within the oft-debated American Way of War? Most discussions on the subject begin with historian Russell Weigley's thesis that Americans have consistently demonstrated a cultural preference for wars that are offensive, fast, technologically-oriented, and decisive—so-called wars of annihilation, as opposed to grinding, less decisive wars of attrition or exhaustion.⁴³⁷ The esteemed political scientist Samuel Huntington echoed these sentiments a decade after Weigley, when he lectured:

The U.S. military establishment is a product of and reflects American geography, culture, society, economy, and history . . . one should not be swept off one's feet by the romantic illusion that Americans can be taught to fight wars the way Germans, Israelis, and even British do. That would be both ahistorical and unscientific . . . The United States is a big, lumbering, pluralistic, affluent, liberal, democratic, individualistic, materialistic (if not hedonistic), technologically supremely sophisticated society. Our military strategy should and, indeed, must be built upon these facts. The way we fight necessarily will reflect the way we live.⁴³⁸

⁴³⁷ Weigley, xvii-xxiii, 128-152.

⁴³⁸ Samuel P. Huntington, *American Military Strategy*, Policy Paper 28 (Berkeley: Institute of International Studies, University of California, Berkeley, 1986), 33; quoted and discussed in Colin S. Gray, "The American Way of War," in *Rethinking the Principles of War* (Annapolis, MD: Naval Institute Press, 2005), 25.

Despite relatively recent commentary and scholarship, attempting to illuminate other, more frequently exercised methods of warfare in the American tradition,⁴³⁹ there is still much validity to the Weigley thesis.

Intellectually—and often doctrinally—the U.S. Army, at the tactical and operational levels of war, aspires to fight in a more ambitious, audacious manner, like the IDF during the 1973 Arab-Israeli War or the German Army at its height during the first several years of World War II. In this aspirational approach to fighting, the U.S. Army is lean, highly professional, and profoundly comfortable with uncertainty. It takes risks; it encourages and exploits the initiative; and it dominates the enemy in competitive cycles of decision making. However, even acknowledging the caveats that a search for a “way of war” is prone to caricature, the under-recognition of contrary evidence, and the excessive expectation of continuity, Americans consistently seem to prefer an approach to fighting that is over-reliant upon superior technology, firepower, and logistics; and characterized by strategic impatience and a preference for conventional, decisive, large-scale conflict.⁴⁴⁰ It also suggests, as this study has illustrated, a fundamental discomfort with uncertainty and, by extension, an unwillingness to engage that uncertainty and take risks.

This is what makes this seemingly-abstract philosophical conversation so relevant and important; American geographic isolation, wealth, and relative security have, for at least two centuries, shielded it from the vulnerability of a truly existential threat in mid-

⁴³⁹ See for example, Linn and Weigley, 501-533; John Grenier, *The First Way of War* (Cambridge, UK: Cambridge University Press, 2005), 1-15.

⁴⁴⁰ Gray, “The American Way of War,” 13-40.

to high-intensity land combat. Therefore, in the absence of such a threat, it is hard to say whether the U.S. Army could ever truly adopt a more risk-accepting method of command in land warfare. However, it is important to note that the way commanders choose to navigate uncertainty is a highly personal process. It is far easier to promote the potential benefits of aggressively engaging uncertainty and taking risk in theory than it is in practice. As the U.S. Army continues to evolve, commanders will have to resist the illusion of certainty and complete control offered by increasingly sophisticated information and communications technologies. They will have to be comfortable and prepare their organizations to make judgments and decisions under conditions of uncertainty. Doing so does not imply behaving recklessly, but it requires acknowledging that uncertainty in combat will persist and those most prepared to think and act in such conditions will have a decided advantage over their adversaries.

APPENDIX A

THE STRATEGIC AND OPERATIONAL CONTEXT

OF THE 1973 ARAB-ISRAELI WAR

The 1973 War was the fourth (some would say fifth) major conflict that Israel fought with its Arab neighbors in the quarter century since achieving statehood. First, from 1948 to 1949, Israel won a desperate, violent struggle for its independence with a disparate mix of quasi-modern security forces and militias.⁴⁴¹ In the 1956 Suez War, Israel again prevailed, and it was during this conflict that the hallmarks of its modern doctrine and army emerged; the use of the indirect approach and preference for high-speed, open maneuver warfare, the rapid employment of a large reserve system; and the tradition of its officers leading from the front (and sustaining disproportionately high casualties as a result). However, the results were frustrating for Israel; Egypt deftly spun the outcome, claiming Israel had not won since the British and French had forced their withdrawal.⁴⁴²

Then, in June 1967, Israel unleashed a massive, preemptive attack against the armies and air forces of Egypt, Syria, and Jordan, winning an overwhelming victory in just six days. Moshe Dayan, who had been IDF chief of staff during the Suez War, became minister of defense on the eve of the 1967 War. He then ordered dramatic revisions to the war plan, greatly expanding the ambition and scope of its operational and strategic aims. In his view, only a crushing, decisive military victory would allow Israel

⁴⁴¹ Herzog, *The Arab-Israeli Wars*, 15-108.

⁴⁴² Ibid., 141.

to achieve its broader political objectives and deny those of its Arab adversaries. Unlike in the 1956 conflict, from which Egyptian President Gamal Abdal Nasser had emerged with greater prestige and the status of a pan-Arab leader, the goals of the 1967 War included not only the seizure of enough territory to provide Israel greater strategic depth but also the humiliation of Nasser and the Arab militaries.⁴⁴³

The eventual shape of the 1973 conflict originated from the dynamics of the Six-Day War itself and the six-year period that followed. Militarily, Israel emerged from the 1967 War with enormous self-confidence in the superiority of its armed forces. Major General Ariel Sharon's rhetoric was characteristic of this period; in 1967, he claimed that "Israel is now a military superpower. Every national force in Europe is weaker than we are. We can conquer in one week the area from Khartoum to Baghdad and Algeria."⁴⁴⁴ Historian George Gawrych has argued that Israel's "dramatic victory [in 1967] unconsciously created an albatross for the IDF." In his view, the IDF was now shackled with unrealistic expectations for success in the next conflict: one that would presumably be as decisive, quick, and relatively cheap in both blood and treasure as the triumph in 1967.⁴⁴⁵ Additionally, the 1967 War appeared to validate the IDF's evolving and increasingly effective tactical doctrine and approach to operational art, including its bias for the offense, refined use of the indirect approach, ability to synchronize large-scale, blitzkrieg-like tactics, employment of experience-based generalship, and a decentralized

⁴⁴³ Gawrych, 2-5.

⁴⁴⁴ Quoted in The Insight Team of the London Sunday Times, 27.

⁴⁴⁵ Gawrych, 1.

command system.⁴⁴⁶ Following the Six-Day War, Israel continued to aggressively modernize its military; however, these transformations, especially with respect to tactics, tended toward extremes. Most notably, the ascent of the armored corps, which had begun in the aftermath of the 1956 Suez War,⁴⁴⁷ reached its apotheosis in the run-up to the 1973 War. Unfortunately, this disproportionate emphasis on armor came at the expense of the other arms, sacrificing and overlooking the enduring importance of combined-arms tactics.⁴⁴⁸

The decisiveness of Israel's victory in 1967, which created a dangerous stew of Israeli over-confidence and Arab humiliation, adversely impacted the already tenuous diplomatic landscape. The scope of the Arabs' humiliation hardened their resolve. In the immediate aftermath of the war, Arab leaders converged in Khartoum and established a framework for the way forward built on the foundation of the "3 Nos:" "no peace with Israel, no recognition of Israel, no negotiations with Israel, and insistence on the rights of the Palestinian people in their own country."⁴⁴⁹ Over the next six years there would be three attempts to bring about a more lasting peace, mediated, in succession, by the United Nations, the United States, and then the Soviet Union. All would fail.⁴⁵⁰ Moreover, the

⁴⁴⁶ Kober, 168-178.

⁴⁴⁷ Schiff, 99. Before the Suez War, Moshe Dayan had believed and aggressively supported the primacy of the infantry; however, the war illustrated the growing importance of armor and mechanized infantry on the modern battlefield, and Dayan would support this transition from 1956 forward.

⁴⁴⁸ House, 231-232.

⁴⁴⁹ The Insight Team of the London Sunday Times, 16.

⁴⁵⁰ The literature on the geopolitical dynamics of and diplomatic efforts in the Middle East from 1967-1973 is large and beyond the scope of this study. See for

superpower dynamics in the region were shifting radically; the influence of the British and French was waning, while that of the United States and Soviet Union was waxing. The expansion of the Cold War into the Middle East further complicated the struggling diplomatic efforts, most notably through the Soviet infusion of weapons into Egypt, enabling Cairo to sustain hostilities against Israel during the so-called War of Attrition (1967-1970).⁴⁵¹

The failure of diplomacy and an increasingly volatile strategic environment led to a period of intense war preparation during which the Soviets facilitated the training, massive rearmament, and modernization of its Egyptian and Syrian clients. Egypt's new President Anwar Sadat, led the Arab coalition and drove the design of an adroit strategy. In it, Egypt and Syria would conduct a simultaneous, surprise two-front attack against Israel oriented on limited military objectives in order to achieve their ultimate political goals: reacquisition of the territories that Israel captured in 1967 and the rejuvenation of Arab pride.

Syria's war aims were simpler than those of Egypt. It would attack with three mechanized infantry divisions (each of which was reinforced by an independent armored brigade) and two armored divisions (as the exploitation force). They were to capture, within thirty-six hours, the entire Golan Heights and three critical bridges to the south

example, Elizabeth Monroe and A. H. Farrar-Hockley, *The Arab-Israel War, October 1973: Background and Events* (London: The International Institute for Strategic Studies, 1975), 1-13; Itamar Rabinovich, "The Politics of the Region," in *The Impact of the Six-Day War: A Twenty-Year Assessment*, ed. Stephen J. Roth (New York: St. Martin's Press, 1988), 42-52.

⁴⁵¹ See for example, David A. Korn, *Stalemate: The War of Attrition and Great Power Diplomacy in the Middle East, 1967-1970* (Boulder, CO: Westview Press, 1992).

spanning the River Jordan in order to prevent mobilizing IDF reserves from being able to conduct effective counterattacks.⁴⁵²

Egypt's war aims were more textured and complicated. Political scientists Eliot Cohen and John Gooch have identified Egypt's three primary objectives. First, Sadat sought to initiate hostilities in order to break the diplomatic stalemate and "restore fluidity" to Middle Eastern politics.⁴⁵³ His next two objectives were based on his desire to reshape the psychological landscape of the region. On the one hand, he wanted to eliminate Egypt's defeatism and sense of inferiority; gaining a foothold in the Sinai would not only help to repair Egyptian pride and honor, but it would also set conditions for a better settlement with Israel. On the other hand, Sadat was motivated to pierce what he called the "Israeli Security Theory." This "theory," in his view, consisted of several propositions describing the Israeli way of war; highly mobile, fast, and based on the assumptions of the Arabs' enduring military inferiority and that Israel needed to carry the fight into Arab territory.⁴⁵⁴

Sadat knew that in order to achieve these aims he would need to inflict "the heaviest losses on the enemy."⁴⁵⁵ His plan comprised an ambitious crossing of the Suez Canal by two armies. A total of five infantry assault divisions, into which independent

⁴⁵² Dunstan, *The Yom Kippur War (I)*, 8-14.

⁴⁵³ Eliot Cohen and John Gooch, *Military Misfortunes: The Anatomy of Failure in War* (New York: Vintage Books, 1990), 100-101.

⁴⁵⁴ Ibid.

⁴⁵⁵ Anwar Sadat, *In Search of Identity: An Autobiography* (New York, NY: Harper and Row, 1977), 327; quoted and discussed in Cohen and Gooch, 100.

armored brigades had been integrated, would spearhead the crossing, while the remaining balance of combat power would remain postured on the west bank.⁴⁵⁶ An important issue remains unresolved in the literature; that of Egypt's original operational objectives. Some sources argue that they comprised the defeat of the Israeli network of strong points along the east bank of the canal, known as the Bar Lev line, and the subsequent establishment of a defensive foothold no further than ten kilometers east of the Suez Canal. Other sources argue that the Egyptian Army planned to conduct an operational pause, after its initial crossing and consolidation, to absorb the inevitable IDF counterattacks, before resuming the offensive with the objective of taking the key Sinai passes another twenty kilometers to the east.⁴⁵⁷ The point is now moot because the Egyptians chose to resume their offensive, and, as this paper discusses in chapter 3, this proved to be the turning point for the war along the southern front.

Thus, with their plans finalized and fully coordinated, Egypt and Syria initiated Operation Badr shortly after 2:00 p.m. on 6 October 1973. AMAN, Israel's military intelligence directorate, directly subordinate to the IDF Chief of Staff, Lieutenant General David Elazar, had ignored or downplayed ominous warning signs concerning the massing of the Arab armies along both fronts and their deliberate preparations for a major war.⁴⁵⁸

⁴⁵⁶ Dunstan, *The Yom Kippur War 1973* (2), 19-27.

⁴⁵⁷ For an excellent review of the divergent sources within the conceptual framework of operational reach, see Major Lucas J.A. Braxton, "Understanding Strategic Success and Tactical Failure in 1973: An Examination from a Spatial-Temporal Perspective" (Monograph, School of Advanced Military Studies, Fort Leavenworth, KS, 2013), 16-19.

⁴⁵⁸ As discussed in chapter 2 ("Literature Review"), this remains a favorite subject in the academic historiography of the war. Simply put, the Israeli intelligence community (and, more specifically, AMAN) filtered intelligence through something they called the

Thus, the mobilization of reserves upon which the IDF's defensive plans heavily relied was dangerously delayed, forcing the heavily outnumbered IDF defenders on both fronts to fight desperate holding actions during the war's opening days.

Additionally, the Egyptians and Syrians had carefully studied the IDF's strengths and vulnerabilities since the 1967 War. They conceded the IDF's superiority in open, highly mobile armored ground and offensive air warfare. To counter these advantages, both Arab armies employed an attritional approach.⁴⁵⁹ Specifically, their approach sought to force the IDF to fight simultaneously along two fronts at places and times of their own choosing. Within this plan, they deployed dense formations of SAM-2s, -3s, and -6s to create integrated air defense umbrellas over both the Golan Heights and the Suez Canal zone, denying the IDF the use of its qualitatively superior air force. Furthermore, into their assault elements, the Egyptians and Syrians incorporated more mobile SAM-7 shoulder-fired missiles and ZSU-23-4 self-propelled anti-aircraft guns to enable an extension of this air-defense umbrella into the forward combat zone. Similarly, they heavily equipped their infantry, which would dig in along the anchor points. Both

"concept," or the assumption that Egypt would not go to war before two conditions were met; namely; the acquisition of Soviet-supplied fighter-bombers to neutralize the Israeli Air Force upon their own air bases as well as SCUD missiles capable of striking Tel Aviv. Since neither condition had been met, Israel did not take evidence of the coming combined attack as seriously as it should have. Moreover, Syria would not attack Israel without Egyptian support and coordination. For a survey overview, see Abraham Rabinovich, 21-25. For a deeper, more academic analysis, see Bar-Joseph, 11-35.

⁴⁵⁹ Lynn, 85. Lynn argues, "maneuver requires tactical flexibility and improvisation guides by accurate and timely intelligence, and Arab military culture . . . repeatedly found these abilities to be elusive. Thus, Arab armies have suffered in present day conflict where maneuver warfare has proven its superiority. Yet by military alchemy, the Egyptians created a set-piece battle ruled by attrition in October 1973."

Egyptian field armies would quickly establish, with highly lethal anti-tank weapons, including RPG-7 rocket launchers, various recoilless rifles, and AT-3 “Sagger” wire-guided missiles.⁴⁶⁰ Their intent was to neutralize the IDF’s presumed armor-heavy counterattacks.

⁴⁶⁰ The literature on the quality and quantity of Soviet-provided weapons that the Egyptians and Syrians integrated with such effectiveness into their battle plans is extensive. For a good overview, see Boyne, 15-16; Dunstan, *The Yom Kippur War* (2), 19; House, 233.

APPENDIX B

THE CHALLENGE OF LEARNING LESSONS AND THE ROLE OF INSTITUTIONAL LEADERSHIP DURING A PERIOD OF POST-CONFLICT REFORM AND MODERNIZATION

At the end of his long career, Starry reflected on the dynamics underpinning change in the Army. His wisdom, gained through three and half decades of rigorous, purpose-driven thought and activity, is worth quoting at some length:

We would be much better served, in the end, if we could develop and refine, in our institution, the cultural commonality of intellectual endeavor and the ability to think logically about tough problems . . . We need institutional leadership as well as individual leadership. Without a requisite combination of both, history instructs us that the need for change is difficult to define. The need to change will ever be with us. We may have analyzed the process, framed in its essential parameters, and made some considerable progress toward arming ourselves with systemic mechanisms to permit change to take place. But that in no way ensures either that change will occur or that it will be an easy, orderly process. And so the intellectual search, the exchange of ideas and the conceptual maturation must continue and be ever in motion.⁴⁶¹

As the U.S. Army of 2016 looks into the future, it has responded to supposedly unprecedeted complexity and uncertainty with an operating concept and capstone doctrine that hedge rather than commit the Army to fighting and winning against an appropriately prioritized and framed problem.⁴⁶² The Army has once again embraced the

⁴⁶¹ General Donn A. Starry, “To Change an Army,” *Military Review* 63, no. 3 (March 1983): 27.

⁴⁶² The Army’s operational concept (Unified Land Operations) describes how the “Army seizes, retains, and exploits the initiative to gain and maintain a position of relative advantage in sustained land operations through the simultaneous offensive, defensive, and stability operations in order to deter conflict, prevail in war, and create conditions for favorable conflict resolution;” see ADP 3-0, 1. The “central idea” of the Army’s current operating concept similarly hedges and attempts to provide answers to any possible contingency: “The Army, as part of joint, interorganizational, and

study of military history and theory to articulate war continuities, including the assertions that war is inherently political, human, uncertain, and a contest of wills.⁴⁶³ Yet it has also failed to prioritize the threats it is likely to confront. Win in a Complex World and Unified Land Operations cover any potential contingency, but, in making everything a priority, is anything really a priority; upon what is the Army supposed to focus its developmental energies?

The reforming Army in which Starry played such a central role sought to bury the lessons of Vietnam.⁴⁶⁴ The current generation of Army officers is painfully aware of this choice, especially in light of the challenges the Army confronted conducting counterinsurgency operations in Afghanistan and Iraq. However, this institutional scar tissue may threaten the Army's ability to frame and solve the problem for which it must be prepared.

Today's Army does itself a disservice if it equates the obviousness of the problem it confronted in the 1970s and 1980s (a large-scale conventional attack by the Warsaw

multinational teams, provides multiple options to the Nation's leadership, integrates multiple partners, and operates across multiple domains to present adversaries with multiple dilemmas and achieve sustainable outcomes;" see TRADOC Pamphlet 525-3-1, vi.

⁴⁶³ Lieutenant General Herbert R. McMaster, "Continuity and Change: The Army Operating Concept and Clear Thinking About Future War," *Military Review* 95, no. 2 (March-April 2015): 7-12.

⁴⁶⁴ Harry Summers's book, *On Strategy: The Vietnam War in Context* (Washington, DC: Government Printing Office, 1981) provided much of the Army with the cathartic argument it needed to psychologically get beyond its failures in Vietnam; in short, Summers argues that the Army lost because it had not been allowed to attack the enemy's true center of gravity (North Vietnam) and had instead been asked to conduct nation building in South Vietnam. For an historical analysis of the book's impact, see Linn, 194-195.

Pact) with the challenges of framing and solving that problem. Today's officer corps should be under no illusions: the evolution from Active Defense to AirLand Battle demanded hard work, institutional angst, passion, professionalism, and the collision of theory and practice. Today's problem set is less obvious, but Starry's experience illuminates the need to prioritize the full range of problems and then to organize and drive the institution's efforts accordingly.

Much of the Army's current thinking revolves around two problem sets: lower-risk, lower-intensity counterinsurgency or counterterrorism threats and those offered by ascending peer or near-peer adversaries like China and Russia. While the Army's capstone doctrine and operating concept must nest with the U.S. government's strategic guidance, which was admittedly clearer in the 1970s and 1980s, the Army's current bipolar and diffused thinking has diluted and jeopardized its efforts to effectively reform and modernize.⁴⁶⁵ Historian David Johnson has recently argued that perhaps the more appropriate problem on which to focus the Army's intellectual and developmental energies is that posed by the hybrid threat. "Minding the middle" would force the Army to concentrate efforts on evolving its doctrine, weapons, training, education, and leader development in response to the challenges of a specific problem set. It would also set conditions for the Army to pivot down to the lower-threat, lower-intensity

⁴⁶⁵ Compare, for example, the discussion of principal threats to U.S. interests in the 1987 and 2015 NSSs. In the former, the Warsaw Pact/Soviet Union is the clear, top priority threat, while in the latter everything including terrorism, potential cybercrime, the deleterious impacts of climate change, and peer/near-peer threats is weighted almost equally. See U.S. President, *National Security Strategy of the United States* (Washington, DC: The White House, January 1987), 6-7; U.S. President, *National Security Strategy* (Washington, DC: The White House, February 2015), 6-7 respectively.

counterinsurgency or counterterrorism problem or up to the higher-threat, higher-intensity peer/near-peer adversary problem.⁴⁶⁶

However, this would require acknowledging and accepting some significant institutional risk. Prioritizing the threats against which the Army ultimately allocates its developmental energies and resources means that the Army could prepare for the wrong threat. Yet, emerging evidence from the battlefields of Syria, Iraq, and, in particular, the Donbass region of the Ukraine suggests that there is a strong possibility that U.S. Army elements will have to fight against an adversary trained and equipped by a peer- or near-peer competitor. TRADOC is currently hard at work assessing the lessons of the fighting between the Ukrainian military and Russian-backed separatists. It should take heed of the Army's experience in learning the lessons of the 1973 Arab-Israeli War. Initially, the Army of the 1970s sought evidence in support of reforms of which they had conceived even before the start of that conflict. Ultimately, as leaders like Starry continued to wrestle with the first-order problem that they had identified and framed in Central Europe, the fuller range of lessons from the IDF in the 1973 War became available.

Army Regulations current define "lessons learned" as "an implemented corrective action which leads to improved performance or an observed change in behavior; and the process of discovering, validating, integrating, and evaluating lessons."⁴⁶⁷ Truly learning and implementing the solutions to the right lessons is hard; as the retired British general

⁴⁶⁶ David E. Johnson, *The Challenges of the "Now" and Their Implications for the U.S. Army* (Santa Monica, CA: The RAND Corporation, 2016).

⁴⁶⁷ Headquarters, Department of the Army, Army Regulation 11-33, *Army Lessons Learned Program* (Washington, DC: Government Printing Office, 2016), 19.

and military historian, Jonathan B.A. Bailey, once remarked about the struggles the Western powers encountered in trying to discern the lessons from the Russo-Japanese War:

Military analysts need objective data, visionaries with imagination to project ideas into the future, the ownership not the corruption of lessons by those in power, the will and resource to implement change, to recognize evidence as ephemeral and not the basis of dogma and to resist templates, but to use lessons to develop a Clausewitzian ‘educated judgment,’ to make better decisions subsequently in novel circumstances.⁴⁶⁸

Starry’s efforts over a decade of important reform and modernization should inspire the Army of 2016. His papers and oral history are electric; his intellectual effort, focus, and discipline are obvious. Starry played a central role in driving real institutional change. He contributed to identifying the problem to be solved, articulating an accompanying narrative and conceptual vision, and creating the sense of urgency to effect the required institutional adaptation.⁴⁶⁹ He was the epitome of President Theodore Roosevelt’s “man in the arena”—for whom “criticism is necessary and useful [and] often indispensable; but [which could] never take the place of action . . . It is the doer of deeds who actually counts in the battle for life, and not the man who looks on and says how the

⁴⁶⁸ Jonathan B.A. Bailey, “Military History and the Pathology of Lessons Learned: The Russo-Japanese War, A Case Study,” in *The Past as Prologue: The Importance of History to the Military Profession*, ed. Williamson Murray and Richard Hart Sinnreich (Cambridge, UK: Cambridge University Press, 2006), 194.

⁴⁶⁹ Starry used many of the methods articulated in social scientist John P. Kotter’s eight-step organizational change model; specifically, his model for change employs the following steps: (1) establish a sense of urgency; (2) create the guiding coalition; (3) develop a vision and strategy; (4) communicate the change vision; (5) empower a broad-based coalition; (6) generate short-term wins; (7) consolidate gains and produce more change; and (8) anchor new approaches in the culture. See John P. Kotter, *Leading Change* (Boston, MA: Harvard Business School Press, 1996), 21.

fight out to be fought, without himself sharing in the stress and danger.”⁴⁷⁰ He stepped forward, as both an institutional and operational leader, and fully committed himself to ensuring the Army was postured to fight and win.

⁴⁷⁰ Theodore Roosevelt, “The Duties of Privilege,” in *American Idea: The Best of the Atlantic Monthly*, ed. Robert Vare and Daniel B. Smith (New York: Doubleday, 2007): 555. Roosevelt’s original essay was published in the *Atlantic Monthly* in 1894.

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